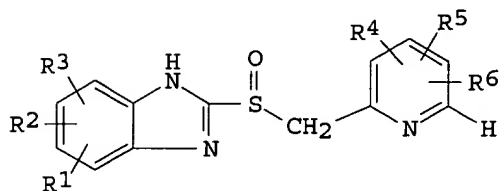


L4 ANSWER 1 OF 1 CAPLUS COPYRIGHT 2004 ACS on STN  
 AN 1992:490285 CAPLUS  
 DN 117:90285  
 TI Enantiomerically pure (pyridylmethylsulfinyl)benzimidazoles useful as  
 drugs, and their preparation from racemates  
 IN Kohl, Bernhard; Senn-Bilfinger, Joerg  
 PA Byk Gulden Lomberg Chemische Fabrik GmbH, Germany  
 SO Ger. Offen., 8 pp.  
 CODEN: GWXXBX  
 DT Patent  
 LA German  
 FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	DE 4035455	A1	19920514	DE 1990-4035455	19901108 <--
	WO 9208716	A1	19920529	WO 1991-EP2096	19911106
	W: AU, CA, CS, DE, FI, HU, JP, KR, NO, PL, SU, US				
	RW: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LU, NL, SE				
	AU 9188406	A1	19920611	AU 1991-88406	19911106
PRAI	DE 1990-4035455		19901108		
	WO 1991-EP2096		19911106		
OS	MARPAT 117:90285				
GI					



AB Title enantiomers I [R1, R5 = H, C1-4 alkyl, C1-4 alkoxy; R2 = H, CF3, alkyl, (fluorinated) alkoxy, ClCF2O, ClCHF2CF2O; R3 = H, alkyl, (fluorinated) alkoxy, ClCF2O, ClCHF2CF2O; or R2R3 = (fluorinated) C1-2 alkylendioxy, OCF2ClCF2O; R4 = H, alkyl; R6 = (fluorinated) alkoxy, PhCH2O] and their salts, useful as drugs for gastric and intestinal disorders (no data), are prepared by derivatizing their racemates (or racemate salts) at the benzimidazole N with an enantiomerically pure chiral compound, separating the resulting diastereomeric derivs., and solvolizing the separated derivative isomers in a strongly acidic medium. For example, (+)-5-(difluoromethoxy)-2-[[3,4-dimethoxy-2-pyridinyl)methylsulfinyl]-1H-benzimidazole Na salt [(+)-II.Na] was N-alkylated by (+)-fenchyl chloromethyl ether [(+)-ROCH2Cl where R = fenchyl] in N-methylpyrrolidone to give a diastereomeric mixture of (+)-II 1-(+)-CH2OR derivative (III) and (-)-II 1-(+)-CH2OR derivative in 74% yield. Four recrystns. from EtOAc/(iso-Pr)2O gave pure III (71.4% yield), which was hydrolyzed in 90% H2SO4 at 5-10° with aqueous NaOH workup and chromatog. to give 44% (+)-II, i.e. the (+)-isomer of pantoprazole. Addnl. examples show preparation of (-)-II and of (+)-omeprazole.

=> analyze l4  
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 ENTER DISPLAY CODE (TI) OR ?:rn  
 L5 ANALYZE L4 1 RN : 11 TERMS

=> fil reg		
COST IN U.S. DOLLARS	SINCE FILE	TOTAL
	ENTRY	SESSION
FULL ESTIMATED COST	14.95	44.69
DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS)	SINCE FILE	TOTAL
	ENTRY	SESSION
CA SUBSCRIBER PRICE	-0.69	-1.38

FILE 'REGISTRY' ENTERED AT 12:04:24 ON 25 MAY 2004  
 USE IS SUBJECT TO THE TERMS OF YOUR STN CUSTOMER AGREEMENT.  
 PLEASE SEE "HELP USAGETERMS" FOR DETAILS.  
 COPYRIGHT (C) 2004 American Chemical Society (ACS)

Property values tagged with IC are from the ZIC/VINITI data file  
 provided by InfoChem.

STRUCTURE FILE UPDATES: 24 MAY 2004 HIGHEST RN 685504-43-2  
 DICTIONARY FILE UPDATES: 24 MAY 2004 HIGHEST RN 685504-43-2

TSCA INFORMATION NOW CURRENT THROUGH JANUARY 6, 2004

Please note that search-term pricing does apply when  
 conducting SmartSELECT searches.

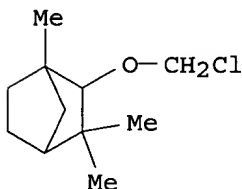
Crossover limits have been increased. See HELP CROSSOVER for details.

Experimental and calculated property data are now available. For more  
 information enter HELP PROP at an arrow prompt in the file or refer  
 to the file summary sheet on the web at:  
<http://www.cas.org/ONLINE/DBSS/registryss.html>

=> s 15  
 L6 11 L5

=> d 1-11

L6 ANSWER 1 OF 11 REGISTRY COPYRIGHT 2004 ACS on STN  
 RN 142759-21-5 REGISTRY  
 CN Bicyclo[2.2.1]heptane, 2-(chloromethoxy)-1,3,3-trimethyl- (9CI) (CA INDEX  
 NAME)  
 FS 3D CONCORD  
 MF C11 H19 Cl O  
 SR CA  
 LC STN Files: CA, CAPLUS  
 DT.CA Caplus document type: Journal; Patent  
 RL.P Roles from patents: RACT (Reactant or reagent)  
 RLD.NP Roles for non-specific derivatives from non-patents: PRP (Properties);  
 USES (Uses)



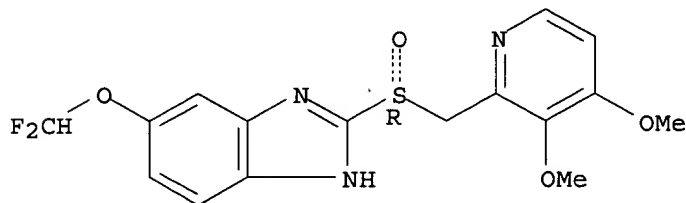
\*\*PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT\*\*

2 REFERENCES IN FILE CA (1907 TO DATE)

1 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA  
2 REFERENCES IN FILE CAPLUS (1907 TO DATE)

L6 ANSWER 2 OF 11 REGISTRY COPYRIGHT 2004 ACS on STN  
RN 142706-18-1 REGISTRY  
CN 1H-Benzimidazole, 5-(difluoromethoxy)-2-[(R)-[(3,4-dimethoxy-2-pyridinyl)methyl]sulfinyl]- (9CI) (CA INDEX NAME)  
OTHER CA INDEX NAMES:  
CN 1H-Benzimidazole, 5-(difluoromethoxy)-2-[(3,4-dimethoxy-2-pyridinyl)methyl]sulfinyl]-, (+)-  
OTHER NAMES:  
CN (+)-Pantoprazole  
FS STEREOSEARCH  
DR 558432-32-9  
MF C16 H15 F2 N3 O4 S  
CI COM  
SR CA  
LC STN Files: BEILSTEIN\*, BIOSIS, CA, CAPLUS, CASREACT, IMSPATENTS, IMSRESEARCH, TOXCENTER, USPATFULL  
(\*File contains numerically searchable property data)  
DT.CA Caplus document type: Journal; Patent  
RL.P Roles from patents: ANST (Analytical study); BIOL (Biological study); PREP (Preparation); PRP (Properties); RACT (Reactant or reagent); USES (Uses)  
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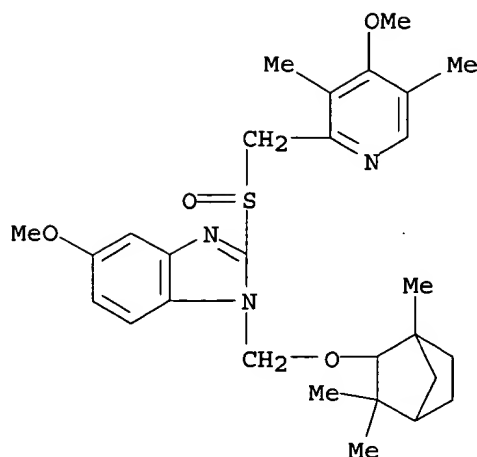
Absolute stereochemistry. Rotation (+).



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18 REFERENCES IN FILE CAPLUS (1907 TO DATE)

L6 ANSWER 3 OF 11 REGISTRY COPYRIGHT 2004 ACS on STN  
RN 142678-36-2 REGISTRY  
CN 1H-Benzimidazole, 5-methoxy-2-[[[4-methoxy-3,5-dimethyl-2-pyridinyl)methyl]sulfinyl]-1-[[[(1,3,3-trimethylbicyclo[2.2.1]hept-2-yl)oxy]methyl]- (9CI) (CA INDEX NAME)  
FS 3D CONCORD  
MF C28 H37 N3 O4 S  
SR CA  
LC STN Files: CA, CAPLUS  
DT.CA Caplus document type: Patent  
RL.P Roles from patents: PREP (Preparation); RACT (Reactant or reagent)

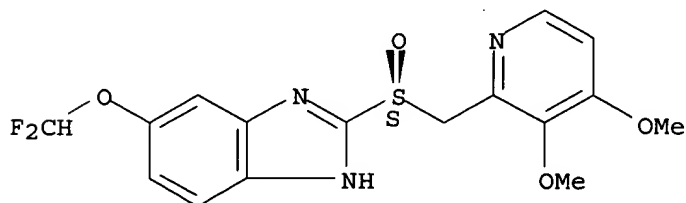


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1 REFERENCES IN FILE CAPLUS (1907 TO DATE)

L6 ANSWER 4 OF 11 REGISTRY COPYRIGHT 2004 ACS on STN  
RN 142678-35-1 REGISTRY  
CN 1H-Benzimidazole, 5-(difluoromethoxy)-2-[(S)-[(3,4-dimethoxy-2-pyridinyl)methyl]sulfinyl]- (9CI) (CA INDEX NAME)  
OTHER CA INDEX NAMES:  
CN 1H-Benzimidazole, 5-(difluoromethoxy)-2-[[[(3,4-dimethoxy-2-pyridinyl)methyl]sulfinyl]-, (-)-  
OTHER NAMES:  
CN (-)-Pantoprazole  
CN (S)-Pantoprazole  
FS STEREOSEARCH  
DR 252551-67-0  
MF C16 H15 F2 N3 O4 S  
CI COM  
SR CA  
LC STN Files: BEILSTEIN\*, BIOBUSINESS, BIOSIS, CA, CAPLUS, CASREACT, CIN, IMSDRUGNEWS, IMSPATENTS, IMSRESEARCH, TOXCENTER, USPATFULL  
(\*File contains numerically searchable property data)  
DT.CA Caplus document type: Journal; Patent  
RL.P Roles from patents: ANST (Analytical study); BIOL (Biological study); PREP (Preparation); PRP (Properties); RACT (Reactant or reagent); USES (Uses)  
RLD.P Roles for non-specific derivatives from patents: BIOL (Biological study); PREP (Preparation); USES (Uses)  
RL.NP Roles from non-patents: ANST (Analytical study); BIOL (Biological study); FORM (Formation, nonpreparative); PROC (Process); PRP (Properties); USES (Uses)

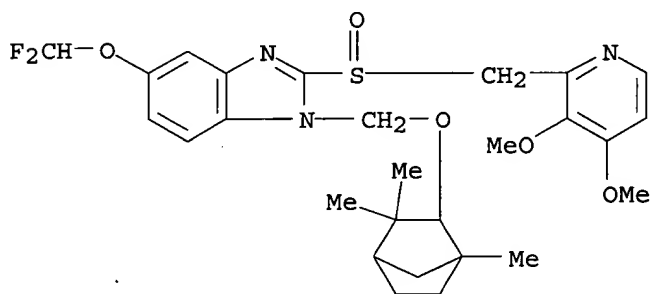
Absolute stereochemistry. Rotation (-).



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 21 REFERENCES IN FILE CAPLUS (1907 TO DATE)

L6 ANSWER 5 OF 11 REGISTRY COPYRIGHT 2004 ACS on STN  
 RN 142678-33-9 REGISTRY  
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 MF C27 H33 F2 N3 O5 S  
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 DT.CA Caplus document type: Patent  
 RL.P Roles from patents: PREP (Preparation); RACT (Reactant or reagent)

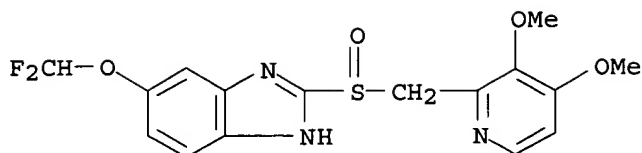


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1 REFERENCES IN FILE CA (1907 TO DATE)  
 1 REFERENCES IN FILE CAPLUS (1907 TO DATE)

L6 ANSWER 6 OF 11 REGISTRY COPYRIGHT 2004 ACS on STN  
 RN 138786-67-1 REGISTRY  
 CN 1H-Benzimidazole, 5-(difluoromethoxy)-2-[[[(3,4-dimethoxy-2-pyridinyl)methyl]sulfinyl]-, sodium salt (9CI) (CA INDEX NAME)  
 OTHER NAMES:  
 CN 5-Difluoromethoxy-2-[[[(3,4-dimethoxypyridin-2-yl)methyl]sulfinyl]-1H-benzimidazole sodium salt  
 CN Controloc  
 CN Pantoloc  
 CN Pantoprazole sodium  
 CN Pantoprazole sodium salt  
 CN Protonix  
 CN Zurcal  
 DR 142678-34-0, 226904-33-2  
 MF C16 H15 F2 N3 O4 S . Na  
 CI COM  
 SR CA  
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 (\*File contains numerically searchable property data)  
 DT.CA Caplus document type: Journal; Patent  
 RL.P Roles from patents: BIOL (Biological study); PREP (Preparation); PROC (Process); PRP (Properties); RACT (Reactant or reagent); USES (Uses)  
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(Uses)  
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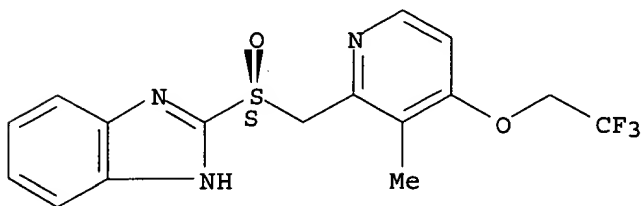


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34 REFERENCES IN FILE CA (1907 TO DATE)  
35 REFERENCES IN FILE CAPLUS (1907 TO DATE)

L6 ANSWER 7 OF 11 REGISTRY COPYRIGHT 2004 ACS on STN  
RN 138530-95-7 REGISTRY  
CN 1H-Benzimidazole, 2-[(S)-[[3-methyl-4-(2,2,2-trifluoroethoxy)-2-pyridinyl]methyl]sulfinyl]- (9CI) (CA INDEX NAME)  
OTHER CA INDEX NAMES:  
CN 1H-Benzimidazole, 2-[[[3-methyl-4-(2,2,2-trifluoroethoxy)-2-pyridinyl]methyl]sulfinyl]-, (S)-  
OTHER NAMES:  
CN (-)-Lansoprazole  
CN (S)-2-[[[3-Methyl-4-(2,2,2-trifluoroethoxy)-2-pyridyl]methyl]sulfinyl]-1H-benzimidazole  
CN (S)-Lansoprazole  
FS STEREOSEARCH  
MF C16 H14 F3 N3 O2 S  
CI COM  
SR CA  
LC STN Files: ADISNEWS, ANABSTR, BEILSTEIN\*, BIOBUSINESS, BIOSIS, CA, CAPLUS, CASREACT, CIN, IMSDRUGNEWS, IMSPATENTS, IMSRESEARCH, IPA, PHAR, TOXCENTER, USPATFULL  
(\*File contains numerically searchable property data)  
DT.CA Caplus document type: Journal; Patent  
RL.P Roles from patents: BIOL (Biological study); PREP (Preparation); PROC (Process); PRP (Properties); RACT (Reactant or reagent); USES (Uses)  
RLD.P Roles for non-specific derivatives from patents: BIOL (Biological study); PREP (Preparation); USES (Uses)  
RL.NP Roles from non-patents: ANST (Analytical study); BIOL (Biological study); FORM (Formation, nonpreparative); OCCU (Occurrence); PROC (Process); PRP (Properties); USES (Uses)

Absolute stereochemistry. Rotation (-).

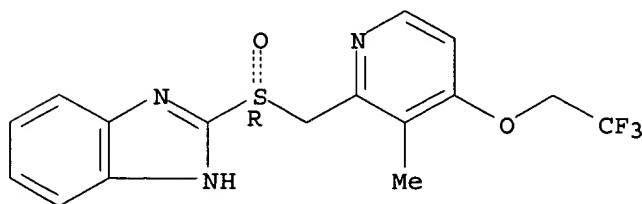


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32 REFERENCES IN FILE CAPLUS (1907 TO DATE)

L6 ANSWER 8 OF 11 REGISTRY COPYRIGHT 2004 ACS on STN  
RN 138530-94-6 REGISTRY  
CN 1H-Benzimidazole, 2-[(R)-[[3-methyl-4-(2,2,2-trifluoroethoxy)-2-pyridinyl)methyl]sulfinyl]- (9CI) (CA INDEX NAME)  
OTHER CA INDEX NAMES:  
CN 1H-Benzimidazole, 2-[[[3-methyl-4-(2,2,2-trifluoroethoxy)-2-pyridinyl)methyl]sulfinyl]-, (R)-  
OTHER NAMES:  
CN (+)-Lansoprazole  
CN (R)-2-[[[3-Methyl-4-(2,2,2-trifluoroethoxy)-2-pyridyl)methyl]sulfinyl]-1H-benzimidazole  
CN R-(+)-Lansoprazole  
FS STEREOSEARCH  
MF C16 H14 F3 N3 O2 S  
CI COM  
SR CA  
LC STN Files: BEILSTEIN\*, BIOSIS, CA, CAPLUS, CASREACT, IMSPATENTS, IMSRESEARCH, IPA, TOXCENTER, USPAT2, USPATFULL  
(\*File contains numerically searchable property data)  
DT.CA Caplus document type: Journal; Patent  
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Absolute stereochemistry. Rotation (+).



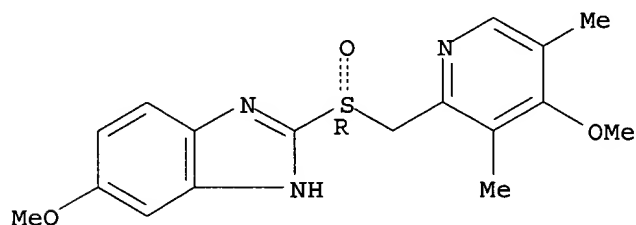
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36 REFERENCES IN FILE CAPLUS (1907 TO DATE)

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RN 119141-89-8 REGISTRY  
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CN 1H-Benzimidazole-1-acetic acid, 5-methoxy-2-[[[4-methoxy-3,5-dimethyl-2-pyridinyl)methyl]sulfinyl]-, (+)-  
OTHER NAMES:  
CN (+)-Omeprazole  
CN (R)-Omeprazole  
CN 1H-Benzimidazole, 5-methoxy-2-[[[4-methoxy-3,5-dimethyl-2-pyridinyl)methyl]sulfinyl]-, (R)-

FS STEREOSEARCH  
 MF C17 H19 N3 O3 S  
 CI COM  
 SR CA  
 LC STN Files: ADISNEWS, BEILSTEIN\*, CA, CAPLUS, CASREACT, IMSPATENTS, IMSRESEARCH, PROMT, TOXCENTER, USPATFULL  
 (\*File contains numerically searchable property data)  
 DT.CA Caplus document type: Journal; Patent  
 RL.P Roles from patents: ANST (Analytical study); BIOL (Biological study); FORM (Formation, nonpreparative); PREP (Preparation); PROC (Process); PRP (Properties); RACT (Reactant or reagent); USES (Uses)  
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Absolute stereochemistry. Rotation (+).



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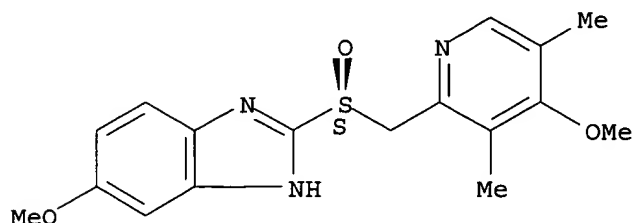
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 60 REFERENCES IN FILE CAPLUS (1907 TO DATE)

L6 ANSWER 10 OF 11 REGISTRY COPYRIGHT 2004 ACS on STN  
 RN 119141-88-7 REGISTRY  
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 OTHER CA INDEX NAMES:  
 CN 1H-Benzimidazole, 5-methoxy-2-[[[(4-methoxy-3,5-dimethyl-2-pyridinyl)methyl]sulfinyl]-, (S)-  
 OTHER NAMES:  
 CN (-)-Omeprazole  
 CN (S)-5-Methoxy-2-[[[(4-methoxy-3,5-dimethyl-2-pyridyl)methyl]sulfinyl]-1H-benzimidazole  
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 FS STEREOSEARCH  
 DR 193469-77-1, 326602-80-6  
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FORM (Formation, nonpreparative); PREP (Preparation); PROC (Process);  
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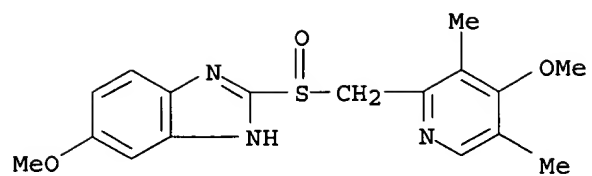
Absolute stereochemistry. Rotation (-).



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195 REFERENCES IN FILE CA (1907 TO DATE)  
 9 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA  
 197 REFERENCES IN FILE CAPLUS (1907 TO DATE)

L6 ANSWER 11 OF 11 REGISTRY COPYRIGHT 2004 ACS on STN  
 RN 95510-70-6 REGISTRY  
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 CN H 168/68 sodium  
 CN Losec Sodium  
 CN Omeprazole sodium  
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 DR 142706-19-2, 226903-65-7  
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 CI COM  
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 (\*File contains numerically searchable property data)  
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 CRN (73590-58-6)



● Na

33 REFERENCES IN FILE CA (1907 TO DATE)

33 REFERENCES IN FILE CAPLUS (1907 TO DATE)

AN 1988:226858 CAPLUS  
 DN 108:226858  
 TI Enteric-coated pellets containing omeprazole and an alkaline core and a water-soluble subcoating  
 IN Lovgren, Kurk Ingmar; Pilbrant, Ake Gunnar; Yasumura, Mitsuru; Morigaki, Satoshi; Oda, Minoru; Ohishi, Naohiro  
 PA Aktiebolag Haessle, Swed.; Fujisawa Pharmaceutical Co., Ltd.; Yoshitomi Pharmaceutical Industries, Ltd.  
 SO Brit. UK Pat. Appl., 15 pp.  
 CODEN: BAXXDU  
 DT Patent  
 LA English  
 FAN. CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	GB 2189698	A1	19871104	GB 1986-10572	19860430
	ZA 8702378	A	19871230	ZA 1987-2378	19870401
	EP 247983	A2	19871202	EP 1987-850127	19870416
	EP 247983	A3	19881019		
	EP 247983	B1	19930107		
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	EP 496437	A2	19920729	EP 1992-107179	19870416
	EP 496437	A3	19920902		
	EP 496437	B1	19960717		
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	EP 567201	A2	19931027	EP 1993-201611	19870416
	EP 567201	B1	19990915		
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	ES 2006457	T3	19940101	ES 1987-850127	19870416
	AT 140387	E	19960815	AT 1992-107179	19870416
	ES 2091971	T3	19961116	ES 1992-107179	19870416
	AT 184482	E	19991015	AT 1993-201611	19870416
	ES 2135443	T3	19991101	ES 1993-201611	19870416
	US 4786505	A	19881122	US 1987-40491	19870420
	AU 8771912	A1	19871105	AU 1987-71912	19870423
	AU 601974	B2	19900927		
	DK 8702158	A	19871031	DK 1987-2158	19870428
	DK 169988	B1	19950424		
	FI 8701913	A	19871031	FI 1987-1913	19870429
	FI 90393	B	19931029		
	FI 90393	C	19940210		
	NO 8701790	A	19871102	NO 1987-1790	19870429
	NO 174239	B	19931227		
	NO 174239	C	19940406		
	HU 43954	A2	19880128	HU 1987-1948	19870429
	HU 196708	B	19890130		
	DD 260222	A5	19880921	DD 1987-302254	19870429
	DD 260222	B5	19980709		
	DD 273197	A5	19891108	DD 1987-302262	19870429
	PL 151631	B1	19900928	PL 1987-265416	19870429
	CA 1292693	A1	19911203	CA 1987-535899	19870429
	SU 1820837	A3	19930607	SU 1987-4202525	19870429
	JP 62258320	A2	19871110	JP 1987-108762	19870430
	JP 05069807	B4	19931001		
	CN 87103284	A	19871111	CN 1987-103284	19870430
	CN 1020852	B	19930526		
	IL 82911	A1	19910630	IL 1987-82911	19870618
	JP 05294831	A2	19931109	JP 1991-355985	19911220
	RU 2095054	C1	19971110	RU 1992-5011683	19920424
	LV 10357	B	19960420	LV 1993-694	19930628
	LT 3699	B	19960226	LT 1993-1683	19931228
	GR 3032101	T3	20000331	GR 1999-403191	19991210

PRAI GB 1986-10572      A      19860430  
EP 1987-850127      A      19870416  
EP 1992-107179      A      19870416

AB    An enteric-coated tablet comprises a core containing omeprazole (I) together with an alkaline compound, or an I-alkaline salt, optionally together with an alkaline

compound, the core is subcoated with  $\geq 1$  layers comprising water-soluble, polymeric, film-forming compds., and an outer layer which is an enteric coating. Uncoated cores (pellets) containing 90 mg/g I were prepared from a mixture containing mannitol 1620, anhydrous lactose 80, hydroxypropyl

cellulose 60,

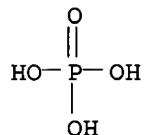
microcryst. cellulose, I 200, Na lauryl sulfate 1.0, Na<sub>2</sub>HPO<sub>4</sub> 9.3, and water 515 g. The cores (500 g) were subcoated with a mixture containing 20 g PVP and 400 g EtOH, and enteric coated with a mixture containing hydroxy. Me cellulose phthalate 45, cetyl alc. 5, Me<sub>2</sub>CO 219, and EtOH 680 g. The pellets were dried to a water content of 0.5%, and packed in capsules containing 20 mg I each. The composition was added to gastric juice and 96% I remained intact after 2 h whereas at pH 6 91% dissolved within 10 min.

=> s l3

L4 20 L3

=> d scan

L4 20 ANSWERS REGISTRY COPYRIGHT 2004 ACS on STN  
IN Phosphoric acid, disodium salt (8CI, 9CI)  
MF H3 O4 P . 2 Na  
CI COM



●2 Na

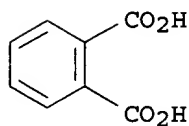
HOW MANY MORE ANSWERS DO YOU WISH TO SCAN? (1):19

L4 20 ANSWERS REGISTRY COPYRIGHT 2004 ACS on STN  
IN Cellulose, acetate hydrogen 1,2-benzenedicarboxylate (9CI)  
MF C8 H6 O4 . x C2 H4 O2 . x Unspecified  
CI COM

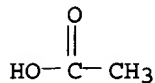
CM 1

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

CM 2



CM 3

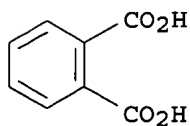


L4 20 ANSWERS REGISTRY COPYRIGHT 2004 ACS on STN  
IN Cellulose, hydrogen 1,2-benzenedicarboxylate, 2-hydroxypropyl methyl ether (9CI)  
MF C8 H6 O4 . x C3 H8 O2 . x C H4 O . x Unspecified  
CI COM

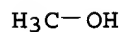
CM 1

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

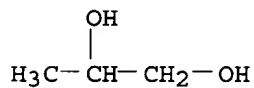
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CM 3

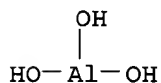


CM 4

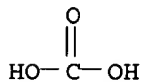


L4 20 ANSWERS REGISTRY COPYRIGHT 2004 ACS on STN  
IN Carbonic acid, magnesium salt (1:1), mixt. with aluminum hydroxide  
(Al(OH)<sub>3</sub>) (9CI)  
MF C H2 O3 . Al H3 O3 . Mg  
CI MXS

CM 1

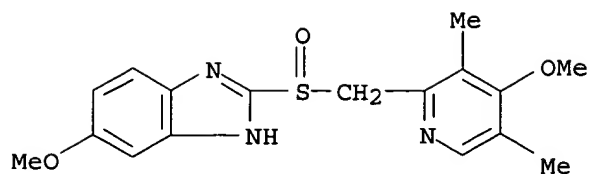


CM 2



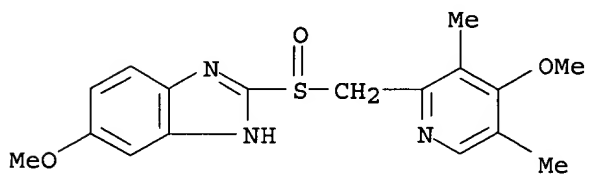
● Mg

L4 20 ANSWERS REGISTRY COPYRIGHT 2004 ACS on STN  
IN 1H-Benzimidazole, 5-methoxy-2-[[[4-methoxy-3,5-dimethyl-2-pyridinyl)methyl]sulfinyl]-, sodium salt (9CI)  
MF C17 H19 N3 O3 S . Na  
CI COM



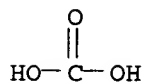
● Na

L4 20 ANSWERS REGISTRY COPYRIGHT 2004 ACS on STN  
 IN 1H-Benzimidazole, 5-methoxy-2-[[4-methoxy-3,5-dimethyl-2-pyridinyl)methyl]sulfinyl]-, ammonium salt (9CI)  
 MF C17 H19 N3 O3 S . H3 N



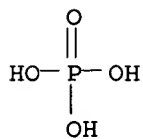
● NH<sub>3</sub>

L4 20 ANSWERS REGISTRY COPYRIGHT 2004 ACS on STN  
 IN Carbonic acid, magnesium salt (1:1) (8CI, 9CI)  
 MF C H2 O3 . Mg  
 CI COM



● Mg

L4 20 ANSWERS REGISTRY COPYRIGHT 2004 ACS on STN  
 IN Phosphoric acid, monosodium salt (8CI, 9CI)  
 MF H3 O4 P . Na  
 CI COM



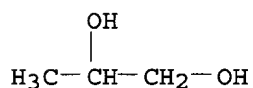
● Na

L4 20 ANSWERS REGISTRY COPYRIGHT 2004 ACS on STN  
 IN Cellulose, 2-hydroxypropyl ether (9CI)  
 ADDITIONAL NAMES NOT AVAILABLE IN THIS FORMAT  
 MF C3 H8 O2 . x Unspecified  
 CI COM

CM 1

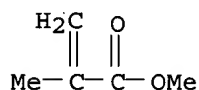
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CM 2

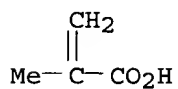


L4 20 ANSWERS REGISTRY COPYRIGHT 2004 ACS on STN  
 IN 2-Propenoic acid, 2-methyl-, polymer with methyl 2-methyl-2-propenoate (9CI)  
 MF (C5 H8 O2 . C4 H6 O2)x  
 CI PMS, COM

CM 1

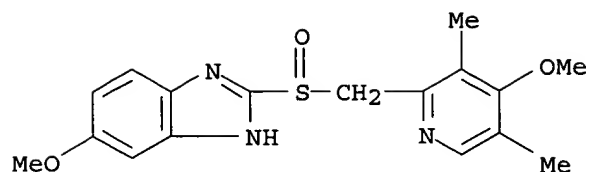


CM 2



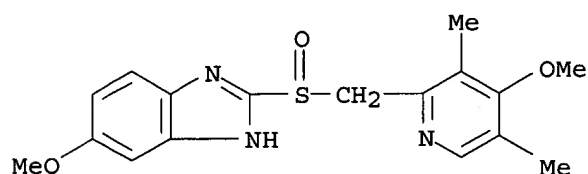
L4 20 ANSWERS REGISTRY COPYRIGHT 2004 ACS on STN  
 IN 1H-Benzimidazole, 5-methoxy-2-[[[4-methoxy-3,5-dimethyl-2-pyridinyl)methyl]sulfinyl]- (9CI)  
 ADDITIONAL NAMES NOT AVAILABLE IN THIS FORMAT  
 MF C17 H19 N3 O3 S  
 CI COM





\*\*PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT\*\*

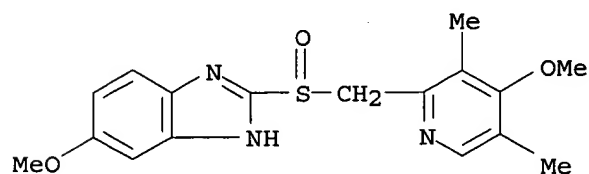
L4 20 ANSWERS REGISTRY COPYRIGHT 2004 ACS on STN  
 IN 1H-Benzimidazole, 5-methoxy-2-[[4-methoxy-3,5-dimethyl-2-pyridinyl)methyl]sulfinyl]-, potassium salt (9CI)  
 MF C17 H19 N3 O3 S . K



● K

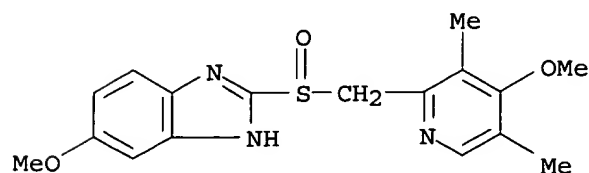
L4 20 ANSWERS REGISTRY COPYRIGHT 2004 ACS on STN  
 IN 1H-Benzimidazole, 5-methoxy-2-[[4-methoxy-3,5-dimethyl-2-pyridinyl)methyl]sulfinyl]-, mixt. with 5-methoxy-2-[[4-methoxy-3,5-dimethyl-2-pyridinyl)methyl]sulfinyl]-1H-benzimidazole sodium salt (9CI)  
 MF C17 H19 N3 O3 S . C17 H19 N3 O3 S . Na  
 CI MXS

CM 1



● Na

CM 2

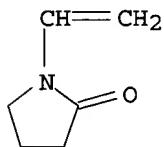


L4 20 ANSWERS REGISTRY COPYRIGHT 2004 ACS on STN  
IN Magnesium hydroxide (Mg(OH)<sub>2</sub>) (9CI)  
ADDITIONAL NAMES NOT AVAILABLE IN THIS FORMAT  
MF H<sub>2</sub> Mg O<sub>2</sub>  
CI COM



L4 20 ANSWERS REGISTRY COPYRIGHT 2004 ACS on STN  
IN 2-Pyrrolidinone, 1-ethenyl-, homopolymer (9CI)  
ADDITIONAL NAMES NOT AVAILABLE IN THIS FORMAT  
MF (C<sub>6</sub> H<sub>9</sub> N O)<sub>x</sub>  
CI PMS, COM

CM 1



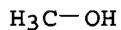
\*\*PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT\*\*

L4 20 ANSWERS REGISTRY COPYRIGHT 2004 ACS on STN  
IN Cellulose, 2-hydroxypropyl methyl ether (9CI)  
ADDITIONAL NAMES NOT AVAILABLE IN THIS FORMAT  
MF C<sub>3</sub> H<sub>8</sub> O<sub>2</sub> . x C H<sub>4</sub> O . x Unspecified  
CI COM

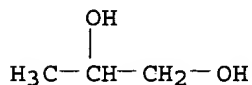
CM 1

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

CM 2



CM 3

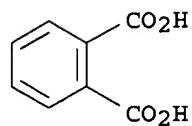


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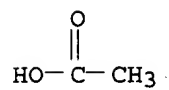
L4 20 ANSWERS REGISTRY COPYRIGHT 2004 ACS on STN  
IN Ethenol, homopolymer, acetate 1,2-benzenedicarboxylate (9CI)  
MF C<sub>8</sub> H<sub>6</sub> O<sub>4</sub> . x C<sub>2</sub> H<sub>4</sub> O<sub>2</sub> . x (C<sub>2</sub> H<sub>4</sub> O)<sub>x</sub>

CI COM

CM 1

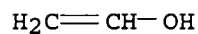


CM 2

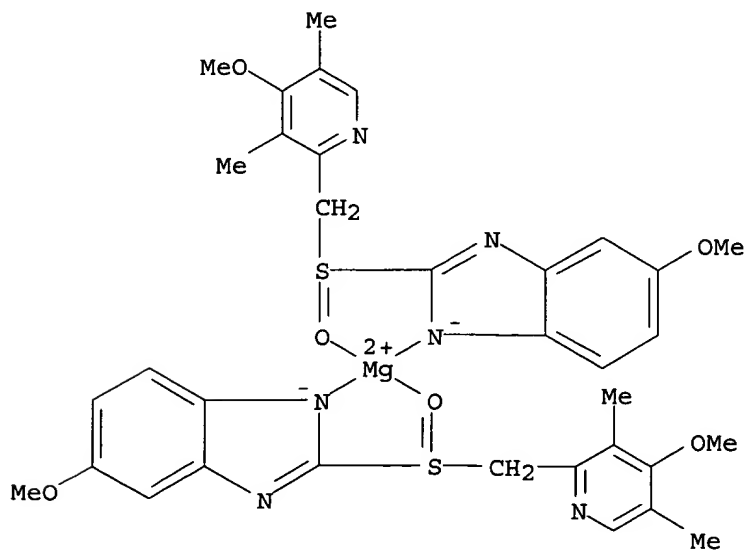


CM 3

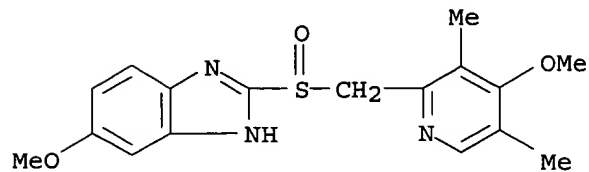
CM 4



L4 20 ANSWERS REGISTRY COPYRIGHT 2004 ACS on STN  
IN Magnesium, bis[5-methoxy-2-[[4-methoxy-3,5-dimethyl-2-pyridinyl)methyl]sulfinyl-κO]-1H-benzimidazolato-κN1]-, (T-4) - (9CI)  
MF C34 H36 Mg N6 O6 S2  
CI CCS, COM

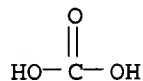


L4 20 ANSWERS REGISTRY COPYRIGHT 2004 ACS on STN  
 IN 1H-Benzimidazole, 5-methoxy-2-[[[4-methoxy-3,5-dimethyl-2-pyridinyl)methyl]sulfinyl]-, calcium salt (9CI)  
 MF C17 H19 N3 O3 S . 1/2 Ca



● 1/2 Ca

L4 20 ANSWERS REGISTRY COPYRIGHT 2004 ACS on STN  
 IN Carbonic acid disodium salt (8CI, 9CI)  
 MF C H2 O3 . 2 Na  
 CI COM



● 2 Na

\*\*PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT\*\*

ALL ANSWERS HAVE BEEN SCANNED

AN 2001:875245 CAPLUS  
 DN 136:11182  
 TI Dry blend of methoxybenzimidazole derivs. for oral dosage forms  
 IN Whittle, Robert R.; Sancilio, Frederick D.; Stowell, Grayson Walker;  
 Jenkins, Douglas John; Whittall, Linda B.  
 PA USA  
 SO U.S., 39 pp., Cont.-in-part of U.S. 6,262,085.  
 CODEN: USXXAM  
 DT Patent  
 LA English  
 FAN.CNT 9

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 6326384	B1	20011204	US 2000-645148	20000824
	US 6262085	B1	20010717	US 2000-519976	20000307
PRAI	US 1999-150878P	P	19990826		
	US 2000-519976	A2	20000307		

OS MARPAT 136:11182

AB The present invention provides dry blend pharmaceutical formulations in unit dosage forms comprising per dosage unit one or more active pharmaceutical ingredients or pharmaceutically acceptable salts, solvates, hydrates, or combinations thereof wherein the ratio of said one or more active pharmaceutical ingredients in said formulations is essentially the same as the ratio of said active pharmaceutical ingredients in the corresponding, non-formulated drug substance and, wherein said formulations in unit dosage form are adapted for oral administration in a form of a capsule or a tablet. The active pharmaceutical ingredient is 4-methoxy-3,5-dimethyl-2-pyridinyl or one or more pharmaceutically acceptable salts, solvates, hydrates, or combinations thereof, in pure form or essentially free of 5-methoxy-2-[[4-methoxy-3,5-dimethyl-2-pyridinyl)methyl]sulfinyl]-1H-benzimidazole. For example, a tablet formulation was manufactured by complexing 5(6)-methoxy-2-[[4-methoxy-3,5-dimethyl-2-pyridinyl)methyl]sulfinyl]-1H-benzimidazole (I) with hydroxypropyl- $\beta$ -cyclodextrin (HP $\beta$ CD) in solution and spraying the solution onto lactose. The spray on lactose material was then blended with excipients and compressed into core tablets. The formulation contained I 20.0 mg, HP $\beta$ CD 80.0 mg, lactose 68.7 mg, magnesium stearate 0.4 mg, and colloidal silica 0.4 mg per tablet. Tablets were coated to a 4.5% total solids weight gain with an Opadry White coating solution as a subcoat. After drying, a 10% total solids weight gain from an Eudragit L 30 or D-55 coating solution was applied as an enteric coat.

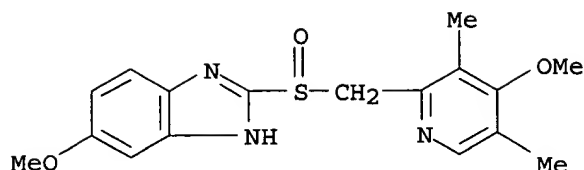
IT 372518-59-7P

RL: PAC (Pharmacological activity); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)

(oral dosage forms containing blend of methoxybenzimidazole derivs. for treatment of gastric acid-related diseases)

RN 372518-59-7 CAPLUS

CN 1H-Benzimidazole, 5-methoxy-2-[[4-methoxy-3,5-dimethyl-2-pyridinyl)methyl]sulfinyl]-, magnesium salt, octahydrate (9CI) (CA INDEX NAME)



● 1/2 Mg

● 4 H<sub>2</sub>O

RE.CNT 147 THERE ARE 147 CITED REFERENCES AVAILABLE FOR THIS RECORD  
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L2 ANSWER 2 OF 2 CAPLUS COPYRIGHT 2004 ACS on STN  
AN 2001:828927 CAPLUS  
DN 135:362587  
TI Cyclodextrin-containing pharmaceutical formulations for benzimidazole derivatives  
IN Whittle, Robert R.; Sancilio, Frederick D.; Stowell, Grayson Walker; Jenkins, Douglas John; Whittall, Linda B.; Meyer, Glenn Alan  
PA USA  
SO U.S., 36 pp., Cont.-in-part of U.S. 6,202,085.  
CODEN: USXXAM  
DT Patent  
LA English  
FAN.CNT 9

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 6316020	B1	20011113	US 2000-629587	20000731
	US 6262085	B1	20010717	US 2000-519976	20000307
PRAI	US 1999-150878P	P	19990826		
	US 2000-519976	A2	20000307		

OS MARPAT 135:362587

AB Pharmaceutical compns. comprise a benzimidazole derivative as an active ingredient or a pharmaceutically acceptable salt, solvate, hydrate, or their combinations with at least one cyclodextrin and at least one pharmaceutically acceptable carrier, diluent, or excipient. For example, to a 50 mL beaker about 1 g of 5(6)-methoxy-2-[[4-methoxy-3,5-dimethyl-2-pyridinyl)methyl]sulfinyl]-1H-benzimidazole was added to 30 mL of methylene chloride. Addnl. 5(6)-methoxy-2-[[4-methoxy-3,5-dimethyl-2-pyridinyl)methyl]sulfinyl]-1H-benzimidazole was added to the resulting solution until a suspension of the material was formed. The solution was stirred for approx. 10 min, and then filtered through a 0.45 µm PTFE or Nylon filter. The resulting saturated solution was placed in a beaker, covered, and stored under refrigerated conditions (approx. 5°) until crystals formed (between 1-2 days). The identity of the title compound was confirmed by single crystal x-ray diffraction and/or Raman spectroscopy. The resulting material was determined to contain about 84-88% (weight/weight) of the

6-methoxy-2-[[4-methoxy-3,5-dimethyl-2-pyridinyl)methyl]sulfinyl]-1 H-benzimidazole and about 12-16% (weight/weight) (I) of the 5-methoxy-2-[[4-methoxy-3,5-dimethyl-2-pyridinyl)methyl]sulfinyl]-1 H-benzimidazole (II). I and II were formulated in various dosage forms, such as tablets, capsules, enteric-coated tablets, and solns. for inhibiting gastric acid secretion. The formulations contained a cyclodextrin, e.g. hydroxypropyl β-cyclodextrin, in a drug to cyclodextrin ratio of 1:4-1:20 to

increase drug solubility

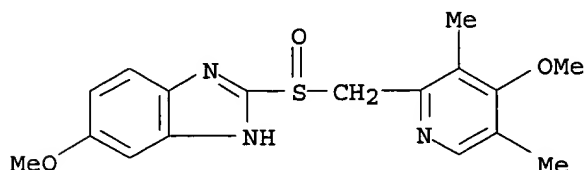
IT 372518-59-7

RL: BPR (Biological process); BSU (Biological study, unclassified); PEP (Physical, engineering or chemical process); THU (Therapeutic use); BIOL (Biological study); PROC (Process); USES (Uses)

(crystallization of benzimidazole derivs. for formulations containing cyclodextrin)

RN 372518-59-7 CAPLUS

CN 1H-Benzimidazole, 5-methoxy-2-[[[4-methoxy-3,5-dimethyl-2-pyridinyl)methyl]sulfinyl]-, magnesium salt, octahydrate (9CI) (CA INDEX NAME)



● 1/2 Mg

● 4 H<sub>2</sub>O

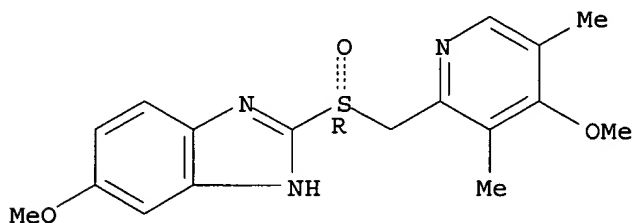
RE.CNT 147 THERE ARE 147 CITED REFERENCES AVAILABLE FOR THIS RECORD  
ALL CITATIONS AVAILABLE IN THE RE FORMAT

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L5 1 C17H19N3O3S.1/2MG/MF

=> d

L5 ANSWER 1 OF 1 REGISTRY COPYRIGHT 2004 ACS on STN  
RN 202742-30-1 REGISTRY  
CN 1H-Benzimidazole, 5-methoxy-2-[[[4-methoxy-3,5-dimethyl-2-pyridinyl)methyl]sulfinyl]-, magnesium salt, (R)- (9CI) (CA INDEX NAME)  
FS STEREOSEARCH  
MF C17 H19 N3 O3 S . 1/2 Mg  
SR CA  
LC STN Files: CA, CAPLUS, IMSPATENTS, IMSRESEARCH, USPATFULL  
DT.CA Caplus document type: Patent  
RL.P Roles from patents: BIOL (Biological study); PREP (Preparation); USES (Uses)  
CRN (119141-89-8)

Absolute stereochemistry. Rotation (+).



O1/2 Mg

1 REFERENCES IN FILE CA (1907 TO DATE)  
1 REFERENCES IN FILE CAPLUS (1907 TO DATE)

=> fil caplus

COST IN U.S. DOLLARS	SINCE FILE ENTRY	TOTAL SESSION
FULL ESTIMATED COST	6.62	24.70
DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS)	SINCE FILE ENTRY	TOTAL SESSION
CA SUBSCRIBER PRICE	0.00	-1.39

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This file contains CAS Registry Numbers for easy and accurate  
substance identification.

=> s l5

L6 1 L5

=> d bib

L6 ANSWER 1 OF 1 CAPLUS COPYRIGHT 2004 ACS on STN  
AN 1998:98055 CAPLUS  
DN 128:154082  
TI Preparation of optically pure omeprazole salts.  
IN Lindberg, Per Lennart; Von Unge, Sverker  
PA Astra AB, Swed.  
SO U.S., 8 pp., Cont.-in-part of U.S. Ser. No. 256,174.  
CODEN: USXXAM  
DT Patent  
LA English  
FAN.CNT 3

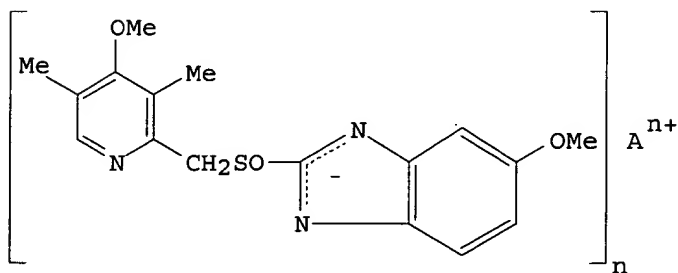
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PI	US 5714504	A	19980203	US 1995-376512	19950123
	CA 2337581	AA	19941208	CA 1994-2337581	19940527
	EP 1020460	A2	20000719	EP 2000-108479	19940527
	EP 1020460	A3	20031015		
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI				
	EP 1020461	A2	20000719	EP 2000-108480	19940527
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI				
	US 5693818	A	19971202	US 1994-256174	19940628
	US 5877192	A	19990302	US 1997-833962	19970411
	US 6143771	A	20001107	US 1999-419456	19991015
	JP 2004043493	A2	20040212	JP 2003-317637	20030910
	JP 2004043494	A2	20040212	JP 2003-317639	20030910
PRAI	SE 1993-1830	A	19930528		
	US 1994-256174	A2	19940628		
	CA 1994-2139653	A3	19940527		
	EP 1994-917244	A3	19940527		
	JP 1995-500553	A3	19940527		
	WO 1994-SE509	W	19940527		
	US 1995-376512	A2	19950123		
	SE 1996-1383	A	19960411		
	US 1997-899931	B1	19970724		

RE.CNT 15 THERE ARE 15 CITED REFERENCES AVAILABLE FOR THIS RECORD  
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L1 ANSWER 1 OF 1 CAPLUS COPYRIGHT 2004 ACS on STN  
 AN 1985:137795 CAPLUS  
 DN 102:137795  
 TI Omeprazole salts  
 IN Brandstrom, Arne Aloff  
 PA Aktiebolag Haessle, Swed.  
 SO Brit. UK Pat. Appl., 6 pp.  
 CODEN: BAXXDU  
 DT Patent  
 LA English  
 FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE	
PI	GB 2137616	A1	19841010	GB 1984-5511	19840302	
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PRAI	SE 1983-1182		19830304			
	EP 1984-850066		19840228			
	US 1984-586107		19840305			
	US 1984-640020		19840810			

GI



AB Omeprazole salts (I, An+ = Li+, Na+, K+, Mg2+, Ca2+, Ti4+, N+R14 or H2NC+(NH2)2 where R1 = C1-4 alkyl; n = 1, 2 or 4) are prepared for treatment of gastrointestinal disorders when cytoprotective and(or) gastric antisecretory effects are desired. The salts are more storage stable than the neutral form. Omeprazole Na salt [95510-70-6] was prepared from the omeprazole and NaOH. A syrup was prepared containing the Na salt 1.0, powdered sugar 30.0, saccharin 0.6, glycerol 5.0, flavor 0.05, EtOH 5.0, sorbic acid 0.5 NaH2PO4 9.0 g and distilled H2O to 100 mL.

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L2 ANALYZE L1 1 RN : 8 TERMS

=> fil reg

COST IN U.S. DOLLARS	SINCE FILE ENTRY	TOTAL SESSION
FULL ESTIMATED COST	14.95	15.16

DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS)	SINCE FILE ENTRY	TOTAL SESSION
CA SUBSCRIBER PRICE	-0.69	-0.69

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STRUCTURE FILE UPDATES: 24 MAY 2004 HIGHEST RN 685504-43-2

DICTIONARY FILE UPDATES: 24 MAY 2004 HIGHEST RN 685504-43-2

TSCA INFORMATION NOW CURRENT THROUGH JANUARY 6, 2004

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Experimental and calculated property data are now available. For more information enter HELP PROP at an arrow prompt in the file or refer to the file summary sheet on the web at:  
<http://www.cas.org/ONLINE/DBSS/registryss.html>

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L3 ANSWER 1 OF 8 REGISTRY COPYRIGHT 2004 ACS on STN

RN 95510-76-2 REGISTRY

CN 1H-Benzimidazole, 5-methoxy-2-[[[4-methoxy-3,5-dimethyl-2-pyridinyl)methyl]sulfinyl]-, lithium salt (9CI) (CA INDEX NAME)

OTHER NAMES:

CN Omeprazole lithium salt

DR 226903-60-2

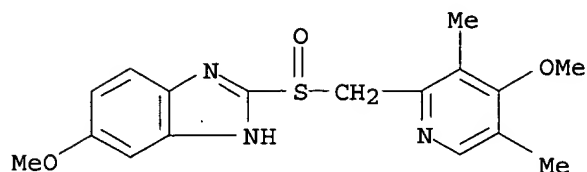
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LC STN Files: CA, CAPLUS, IMSPATENTS, IMSRESEARCH, USPATFULL

DT.CA Caplus document type: Patent

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(Process); PRP (Properties); USES (Uses)  
CRN (73590-58-6)



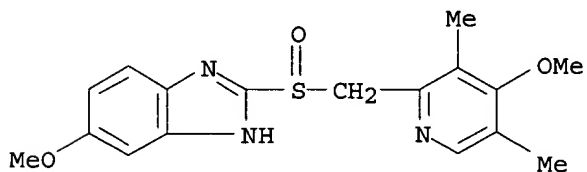
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6 REFERENCES IN FILE CA (1907 TO DATE)  
6 REFERENCES IN FILE CAPLUS (1907 TO DATE)

L3 ANSWER 2 OF 8 REGISTRY COPYRIGHT 2004 ACS on STN  
RN 95510-75-1 REGISTRY  
CN Guanidine, compd. with 5-methoxy-2-[[[4-methoxy-3,5-dimethyl-2-pyridinyl)methyl]sulfinyl]-1H-benzimidazole (1:1) (9CI) (CA INDEX NAME)  
OTHER CA INDEX NAMES:  
CN 1H-Benzimidazole, 5-methoxy-2-[[[4-methoxy-3,5-dimethyl-2-pyridinyl)methyl]sulfinyl]-, compd. with guanidine (1:1) (9CI)  
DR 226903-94-2  
MF C17 H19 N3 O3 S . C H5 N3  
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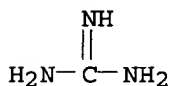
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3 REFERENCES IN FILE CA (1907 TO DATE)  
3 REFERENCES IN FILE CAPLUS (1907 TO DATE)

L3 ANSWER 3 OF 8 REGISTRY COPYRIGHT 2004 ACS on STN  
RN 95510-74-0 REGISTRY

CN 1-Butanaminium, N,N,N-tributyl-, salt with 5-methoxy-2-[[[4-methoxy-3,5-dimethyl-2-pyridinyl)methyl]sulfinyl]-1H-benzimidazole (1:1) (9CI) (CA INDEX NAME)

OTHER CA INDEX NAMES:

CN 1H-Benzimidazole, 5-methoxy-2-[[[4-methoxy-3,5-dimethyl-2-pyridinyl)methyl]sulfinyl]-, ion(1-), N,N,N-tributyl-1-butanaminium (9CI)

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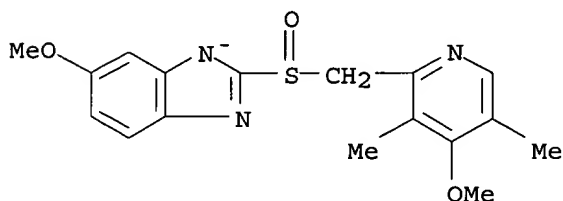
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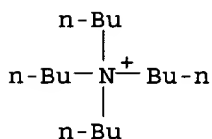
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CRN 10549-76-5

CMF C16 H36 N



1 REFERENCES IN FILE CA (1907 TO DATE)

1 REFERENCES IN FILE CAPLUS (1907 TO DATE)

L3 ANSWER 4 OF 8 REGISTRY COPYRIGHT 2004 ACS on STN

RN 95510-72-8 REGISTRY

CN 1H-Benzimidazole, 5-methoxy-2-[[[4-methoxy-3,5-dimethyl-2-pyridinyl)methyl]sulfinyl]-, calcium salt (9CI) (CA INDEX NAME)

DR 226903-79-3, 228248-87-1

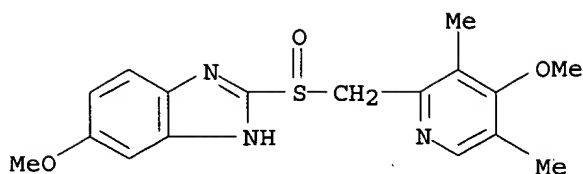
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DT.CA Caplus document type: Patent

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CRN (73590-58-6)

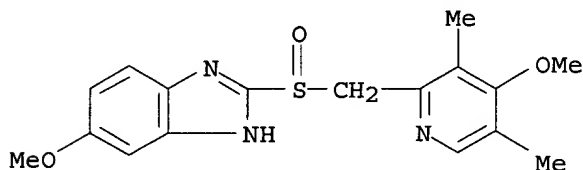


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6 REFERENCES IN FILE CA (1907 TO DATE)

6 REFERENCES IN FILE CAPLUS (1907 TO DATE)

L3 ANSWER 5 OF 8 REGISTRY COPYRIGHT 2004 ACS on STN  
 RN 95510-71-7 REGISTRY  
 CN 1H-Benzimidazole, 5-methoxy-2-[[4-methoxy-3,5-dimethyl-2-pyridinyl)methyl]sulfinyl]-, potassium salt (9CI) (CA INDEX NAME)  
 DR 226903-70-4  
 MF C17 H19 N3 O3 S . K  
 LC STN Files: CA, CAPLUS, IMSPATENTS, IMSRESEARCH, TOXCENTER, USPAT2, USPATFULL  
 DT.CA Caplus document type: Patent  
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 CRN (73590-58-6)



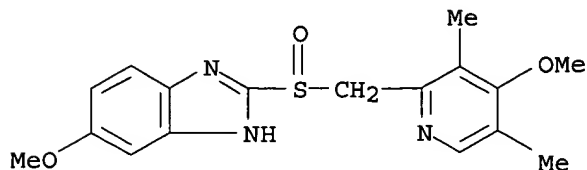
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10 REFERENCES IN FILE CA (1907 TO DATE)

10 REFERENCES IN FILE CAPLUS (1907 TO DATE)

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 RN 95510-70-6 REGISTRY  
 CN 1H-Benzimidazole, 5-methoxy-2-[[4-methoxy-3,5-dimethyl-2-pyridinyl)methyl]sulfinyl]-, sodium salt (9CI) (CA INDEX NAME)  
 OTHER NAMES:  
 CN (+)-Omeprazole sodium salt  
 CN H 168/68 sodium  
 CN Losec Sodium  
 CN Omeprazole sodium  
 CN Omeprazole sodium salt  
 DR 142706-19-2, 226903-65-7  
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 CI COM  
 LC STN Files: ADISINSIGHT, BIOSIS, BIOTECHNO, CA, CAPLUS, CHEMCATS, CIN, EMBASE, IMSPATENTS, IMSRESEARCH, IPA, PROUSDDR, PS, RTECS\*, SYNTHLINE, TOXCENTER, USAN, USPAT2, USPATFULL  
 (\*File contains numerically searchable property data)  
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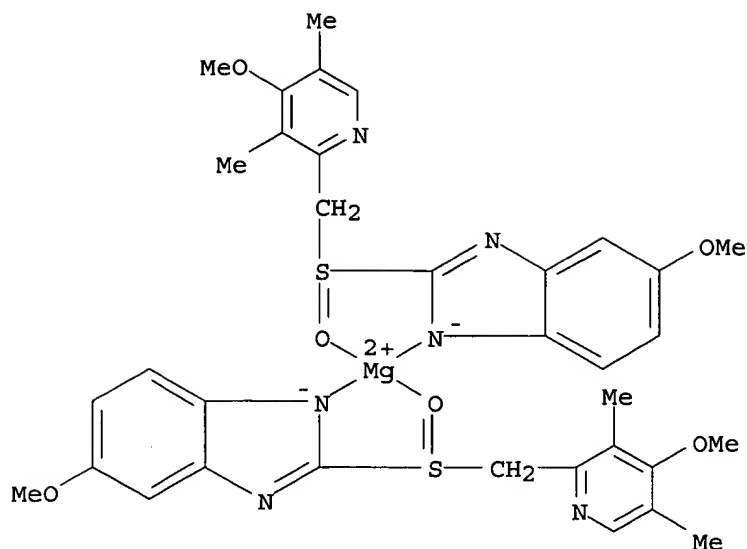
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(Properties); USES (Uses)  
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33 REFERENCES IN FILE CA (1907 TO DATE)  
33 REFERENCES IN FILE CAPLUS (1907 TO DATE)

L3 ANSWER 7 OF 8 REGISTRY COPYRIGHT 2004 ACS on STN  
RN 95382-33-5 REGISTRY  
CN Magnesium, bis[5-methoxy-2-[[[4-methoxy-3,5-dimethyl-2-pyridinyl)methyl]sulfinyl-κO]-1H-benzimidazolato-κN1]-, (T-4)-(9CI) (CA INDEX NAME)  
OTHER CA INDEX NAMES:  
CN 1H-Benzimidazole, 5-methoxy-2-[[[4-methoxy-3,5-dimethyl-2-pyridinyl)methyl]sulfinyl]-, magnesium complex  
CN Magnesium, bis[5-methoxy-2-[[[4-methoxy-3,5-dimethyl-2-pyridinyl)methyl]sulfinyl]-1H-benzimidazolato]-, (T-4)-  
OTHER NAMES:  
CN Magnesium omeprazole  
CN Omeprazole magnesium  
DR 228248-86-0  
MF C34 H36 Mg N6 O6 S2  
CI CCS, COM  
LC STN Files: BIOSIS, CA, CAPLUS, CASREACT, CIN, DIOGENES, IMSPATENTS, IMSRESEARCH, IPA, TOXCENTER, USAN, USPAT2, USPATFULL  
DT.CA Caplus document type: Patent  
RL.P Roles from patents: BIOL (Biological study); PREP (Preparation); PROC (Process); PRP (Properties); USES (Uses)



32 REFERENCES IN FILE CA (1907 TO DATE)  
32 REFERENCES IN FILE CAPLUS (1907 TO DATE)

L3 ANSWER 8 OF 8 REGISTRY COPYRIGHT 2004 ACS on STN

RN **95382-32-4** REGISTRY

CN Titanium, bis[5-methoxy-2-[[4-methoxy-3,5-dimethyl-2-pyridinyl)methyl]sulfinyl]-1H-benzimidazolato-κN1]bis[5-methoxy-2-[[4-methoxy-3,5-dimethyl-2-pyridinyl)methyl]sulfinyl-κO]-1H-benzimidazolato-κN1]- (9CI) (CA INDEX NAME)

OTHER CA INDEX NAMES:

CN 1H-Benzimidazole, 5-methoxy-2-[[4-methoxy-3,5-dimethyl-2-pyridinyl)methyl]sulfinyl]-, titanium complex

CN Titanium, bis[5-methoxy-2-[[4-methoxy-3,5-dimethyl-2-pyridinyl)methyl]sulfinyl]-1H-benzimidazolato]bis[5-methoxy-2-[[4-methoxy-3,5-dimethyl-2-pyridinyl)methyl]sulfinyl]-1H-benzimidazolato-N1]-

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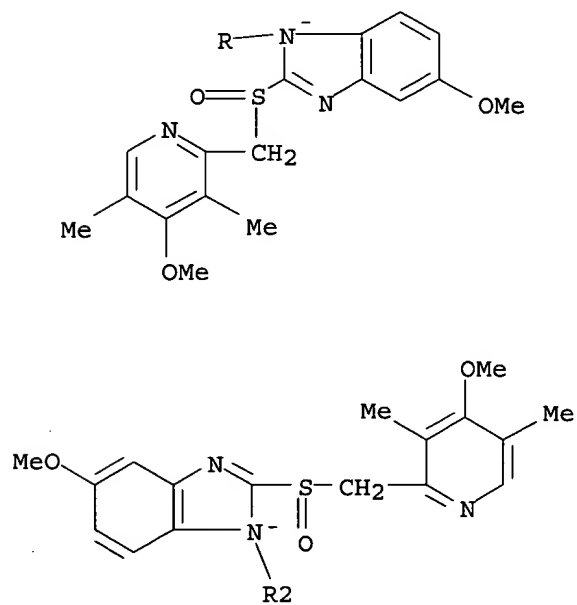
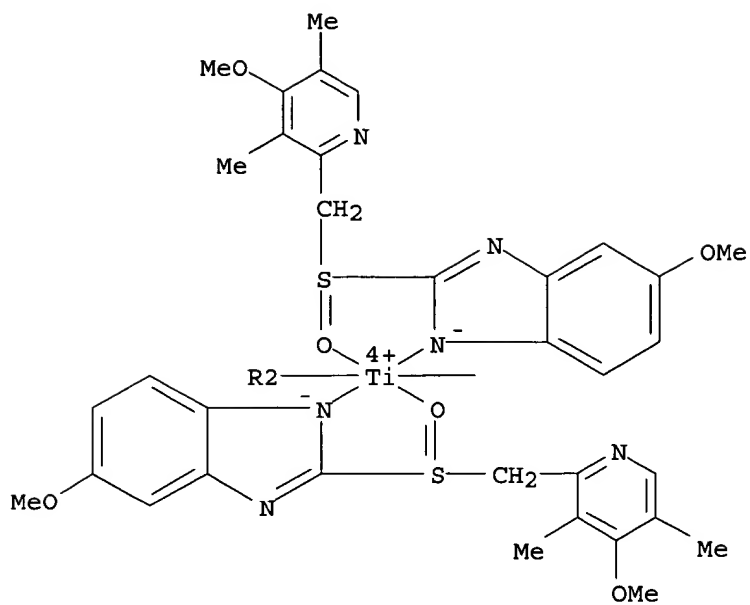
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RL.P Roles from patents: BIOL (Biological study); PREP (Preparation); PROC (Process); PRP (Properties); USES (Uses)





2 REFERENCES IN FILE CA (1907 TO DATE)  
2 REFERENCES IN FILE CAPLUS (1907 TO DATE)

AN 1985:137795 CAPLUS  
 DN 102:137795  
 TI Omeprazole salts  
 IN Brandstrom, Arne Aloy  
 PA Aktiebolag Haessle, Swed.  
 SO Brit. UK Pat. Appl., 6 pp.  
 CODEN: BAXXDU  
 DT Patent  
 LA English  
 FAN.CNT 1

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	ZA 8401202	A	19841031	ZA 1984-1202	19840217
	DK 8400995	A	19840905	DK 1984-995	19840224
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	DK 160044	C	19910610		
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	NO 8400772	A	19840905	NO 1984-772	19840229
	NO 160204	B	19881212		
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	FI 8400851	A	19840905	FI 1984-851	19840302
	FI 83649	B	19910430		
	FI 83649	C	19910812		
	AU 8425257	A1	19840906	AU 1984-25257	19840302
	AU 563842	B2	19870723		
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	CA 1264751	A1	19900123	CA 1984-448761	19840302
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	US 1984-640020		19840810		

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L5 ANSWER 1 OF 8 REGISTRY COPYRIGHT 2003 ACS on STN

RN 95510-76-2 REGISTRY

CN 1H-Benzimidazole, 5-methoxy-2-[[4-methoxy-3,5-dimethyl-2-pyridinyl)methyl]sulfinyl]-, lithium salt (9CI) (CA INDEX NAME)

OTHER NAMES:

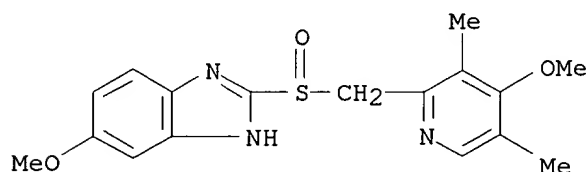
CN Omeprazole lithium salt

DR 226903-60-2

MF C17 H19 N3 O3 S . Li

LC STN Files: CA, CAPLUS, DRUGPAT, DRUGUPDATES, USPATFULL

CRN (73590-58-6)



● Li

6 REFERENCES IN FILE CA (1907 TO DATE)

6 REFERENCES IN FILE CAPLUS (1907 TO DATE)

L5 ANSWER 2 OF 8 REGISTRY COPYRIGHT 2003 ACS on STN

RN 95510-75-1 REGISTRY

CN Guanidine, compd. with 5-methoxy-2-[[4-methoxy-3,5-dimethyl-2-pyridinyl)methyl]sulfinyl]-1H-benzimidazole (1:1) (9CI) (CA INDEX NAME)

OTHER CA INDEX NAMES:

CN 1H-Benzimidazole, 5-methoxy-2-[[4-methoxy-3,5-dimethyl-2-pyridinyl)methyl]sulfinyl]-, compd. with guanidine (1:1) (9CI)

DR 226903-94-2

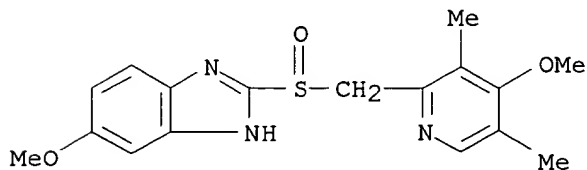
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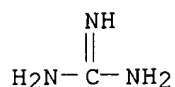
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3 REFERENCES IN FILE CAPLUS (1907 TO DATE)

L5 ANSWER 3 OF 8 REGISTRY COPYRIGHT 2003 ACS on STN

RN **95510-74-0** REGISTRY

CN 1-Butanaminium, N,N,N-tributyl-, salt with 5-methoxy-2-[[4-methoxy-3,5-dimethyl-2-pyridinyl)methyl]sulfinyl]-1H-benzimidazole (1:1) (9CI) (CA INDEX NAME)

OTHER CA INDEX NAMES:

CN 1H-Benzimidazole, 5-methoxy-2-[[4-methoxy-3,5-dimethyl-2-pyridinyl)methyl]sulfinyl]-, ion(1-), N,N,N-tributyl-1-butanaminium (9CI)

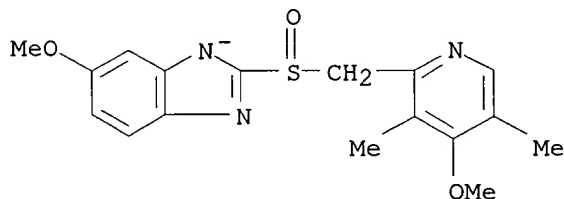
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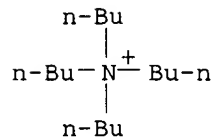
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1 REFERENCES IN FILE CAPLUS (1907 TO DATE)

L5 ANSWER 4 OF 8 REGISTRY COPYRIGHT 2003 ACS on STN

RN **95510-72-8** REGISTRY

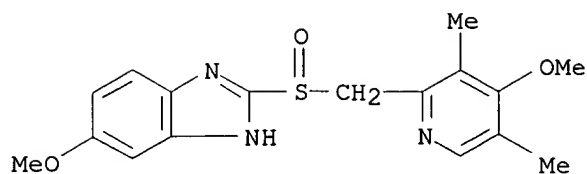
CN 1H-Benzimidazole, 5-methoxy-2-[[4-methoxy-3,5-dimethyl-2-pyridinyl)methyl]sulfinyl]-, calcium salt (9CI) (CA INDEX NAME)

DR 226903-79-3, 228248-87-1

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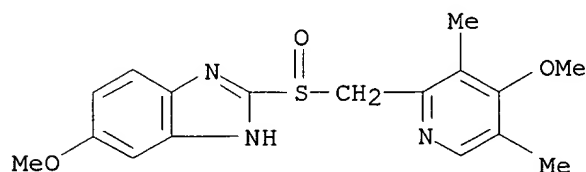


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6 REFERENCES IN FILE CAPLUS (1907 TO DATE)

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 RN **95510-71-7** REGISTRY  
 CN 1H-Benzimidazole, 5-methoxy-2-[[4-methoxy-3,5-dimethyl-2-pyridinyl)methyl]sulfinyl]-, potassium salt (9CI) (CA INDEX NAME)  
 DR 226903-70-4  
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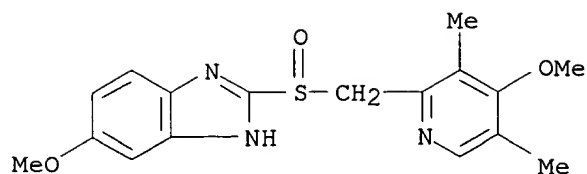


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10 REFERENCES IN FILE CA (1907 TO DATE)

10 REFERENCES IN FILE CAPLUS (1907 TO DATE)

L5 ANSWER 6 OF 8 REGISTRY COPYRIGHT 2003 ACS on STN  
 RN **95510-70-6** REGISTRY  
 CN 1H-Benzimidazole, 5-methoxy-2-[[4-methoxy-3,5-dimethyl-2-pyridinyl)methyl]sulfinyl]-, sodium salt (9CI) (CA INDEX NAME)  
 OTHER NAMES:  
 CN (.+-.)-Omeprazole sodium salt  
 CN H 168/68 sodium  
 CN Losec Sodium  
 CN Omeprazole sodium  
 CN Omeprazole sodium salt  
 DR 142706-19-2, 226903-65-7  
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 LC STN Files: ADISINSIGHT, BIOSIS, BIOTECHNO, CA, CAPLUS, CHEMCATS, CIN, DRUGPAT, DRUGUPDATES, EMBASE, IPA, RTECS\*, SYNTHLINE, TOXCENTER, USAN, USPAT2, USPATFULL  
 (\*File contains numerically searchable property data)  
 CRN (73590-58-6)



● Na

32 REFERENCES IN FILE CA (1907 TO DATE)  
32 REFERENCES IN FILE CAPLUS (1907 TO DATE)

L5 ANSWER 7 OF 8 REGISTRY COPYRIGHT 2003 ACS on STN

RN 95382-33-5 REGISTRY

CN Magnesium, bis[5-methoxy-2-[[4-methoxy-3,5-dimethyl-2-pyridinyl)methyl]sulfinyl-.kappa.O]-1H-benzimidazolato-.kappa.N1]-, (T-4)-(9CI) (CA INDEX NAME)

OTHER CA INDEX NAMES:

CN 1H-Benzimidazole, 5-methoxy-2-[[4-methoxy-3,5-dimethyl-2-pyridinyl)methyl]sulfinyl]-, magnesium complex

CN Magnesium, bis[5-methoxy-2-[[4-methoxy-3,5-dimethyl-2-pyridinyl)methyl]sulfinyl]-1H-benzimidazolato]-, (T-4)-

OTHER NAMES:

CN Magnesium omeprazole

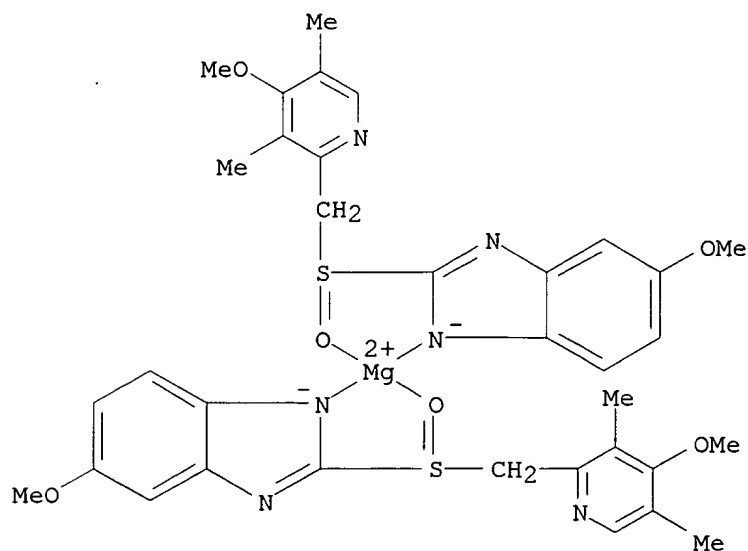
CN Omeprazole magnesium

DR 228248-86-0

MF C34 H36 Mg N6 O6 S2

CI CCS, COM

LC STN Files: BIOSIS, CA, CAPLUS, CASREACT, CIN, DIOGENES, DRUGPAT, DRUGUPDATES, IPA, TOXCENTER, USAN, USPAT2, USPATFULL



30 REFERENCES IN FILE CA (1907 TO DATE)  
30 REFERENCES IN FILE CAPLUS (1907 TO DATE)

L5 ANSWER 8 OF 8 REGISTRY COPYRIGHT 2003 ACS on STN

RN 95382-32-4 REGISTRY

CN Titanium, bis[5-methoxy-2-[[ (4-methoxy-3,5-dimethyl-2-pyridinyl)methyl]sulfinyl]-1H-benzimidazolato-.kappa.N1]bis[5-methoxy-2-[[ (4-methoxy-3,5-dimethyl-2-pyridinyl)methyl]sulfinyl-.kappa.O]-1H-benzimidazolato-.kappa.N1]- (9CI) (CA INDEX NAME)

OTHER CA INDEX NAMES:

CN 1H-Benzimidazole, 5-methoxy-2-[[ (4-methoxy-3,5-dimethyl-2-pyridinyl)methyl]sulfinyl]-, titanium complex

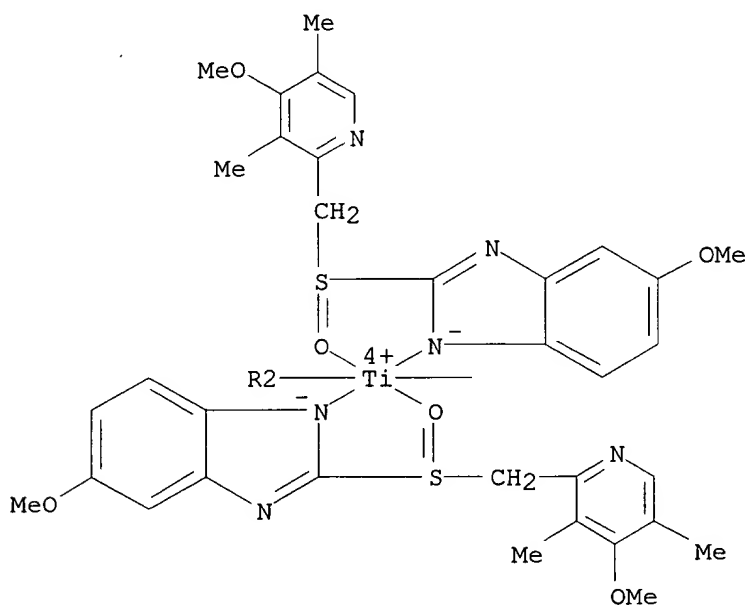
CN Titanium, bis[5-methoxy-2-[[ (4-methoxy-3,5-dimethyl-2-pyridinyl)methyl]sulfinyl]-1H-benzimidazolato]bis[5-methoxy-2-[[ (4-methoxy-3,5-dimethyl-2-pyridinyl)methyl]sulfinyl]-1H-benzimidazolato-N1]-

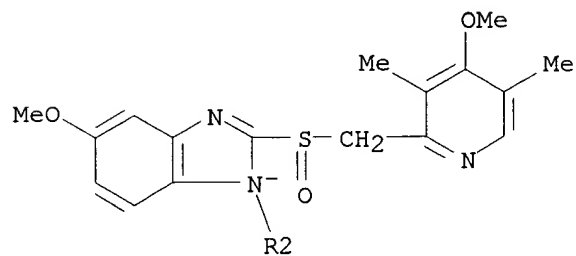
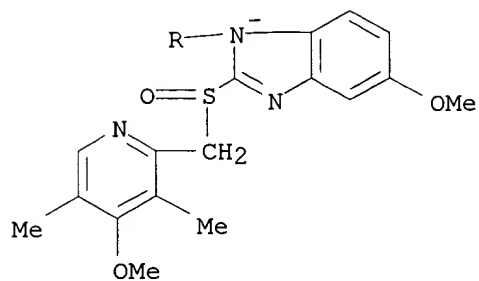
MF C68 H72 N12 O12 S4 Ti

CI CCS

LC STN Files: CA, CAPLUS, DRUGPAT, DRUGUPDATES, USPATFULL

PAGE 1-A





2 REFERENCES IN FILE CA (1907 TO DATE)  
 2 REFERENCES IN FILE CAPLUS (1907 TO DATE)



L7 ANSWER 2 OF 3 CAPLUS COPYRIGHT 2004 ACS on STN  
 AN 1998:98055 CAPLUS  
 DN 128:154082  
 TI Preparation of optically pure omeprazole salts.  
 IN Lindberg, Per Lennart; Von Unge, Sverker  
 PA Astra AB, Swed.  
 SO U.S., 8 pp., Cont.-in-part of U.S. Ser. No. 256,174.  
 CODEN: USXXAM  
 DT Patent  
 LA English  
 FAN.CNT 3

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 5714504	A	19980203	US 1995-376512	19950123
	CA 2337581	AA	19941208	CA 1994-2337581	19940527
	EP 1020460	A2	20000719	EP 2000-108479	19940527
	EP 1020460	A3	20031015		
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI				
	EP 1020461	A2	20000719	EP 2000-108480	19940527
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI				
	US 5693818	A	19971202	US 1994-256174	19940628 <--
	US 5877192	A	19990302	US 1997-833962	19970411
	US 6143771	A	20001107	US 1999-419456	19991015
	JP 2004043493	A2	20040212	JP 2003-317637	20030910
	JP 2004043494	A2	20040212	JP 2003-317639	20030910

PRAI SE 1993-1830 A 19930528  
 US 1994-256174 A2 19940628  
 CA 1994-2139653 A3 19940527  
 EP 1994-917244 A3 19940527  
 JP 1995-500553 A3 19940527  
 WO 1994-SE509 W 19940527  
 US 1995-376512 A2 19950123  
 SE 1996-1383 A 19960411  
 US 1997-899931 B1 19970724

AB Optically pure Na<sup>+</sup>, Mg<sup>2+</sup>, Li<sup>+</sup>, K<sup>+</sup>, Ca<sup>2+</sup> and N<sup>+</sup>(R)<sub>4</sub> (R = C1-4 alkyl) salts of (+)-5-methoxy-2-[[[(4-methoxy-3,5-dimethyl-2-pyridinyl)methyl]sulfinyl]-1H-benzimidazole or (-)-5-methoxy-2-[[[(4-methoxy-3,5-dimethyl-2-pyridinyl)methyl]sulfinyl]-1H-benzimidazole, were prepared Thus, (-)-omeprazole (preparation given) in 2-butanone was treated with aqueous NaOH and

PhMe followed by stirring overnight to give 46% (+)-5-methoxy-2-[[[(4-methoxy-3,5-dimethyl-2-pyridinyl)methyl]sulfinyl]-1H-benzimidazole Na salt. A syrup formulation of the latter is given.

RE.CNT 15 THERE ARE 15 CITED REFERENCES AVAILABLE FOR THIS RECORD  
 ALL CITATIONS AVAILABLE IN THE RE FORMAT

=> analyze l7  
 ENTER ANSWER NUMBER OR RANGE (1-):2  
 ENTER DISPLAY CODE (TI) OR ?:rn  
 L8 ANALYZE L7 2 RN : 11 TERMS

	SINCE FILE	TOTAL
=> fil reg		
COST IN U.S. DOLLARS	ENTRY	SESSION
FULL ESTIMATED COST	18.13	83.55
DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS)	SINCE FILE	TOTAL
	ENTRY	SESSION
CA SUBSCRIBER PRICE	-0.69	-2.07

FILE 'REGISTRY' ENTERED AT 12:06:47 ON 25 MAY 2004  
USE IS SUBJECT TO THE TERMS OF YOUR STN CUSTOMER AGREEMENT.  
PLEASE SEE "HELP USAGETERMS" FOR DETAILS.  
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Property values tagged with IC are from the ZIC/VINITI data file  
provided by InfoChem.

STRUCTURE FILE UPDATES: 24 MAY 2004 HIGHEST RN 685504-43-2  
DICTIONARY FILE UPDATES: 24 MAY 2004 HIGHEST RN 685504-43-2

TSCA INFORMATION NOW CURRENT THROUGH JANUARY 6, 2004

Please note that search-term pricing does apply when  
conducting SmartSELECT searches.

Crossover limits have been increased. See HELP CROSSOVER for details.

Experimental and calculated property data are now available. For more  
information enter HELP PROP at an arrow prompt in the file or refer  
to the file summary sheet on the web at:  
<http://www.cas.org/ONLINE/DBSS/registryss.html>

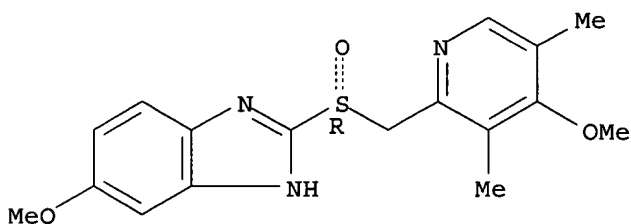
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L9 11 L8

=> d 1-11

L9 ANSWER 1 OF 11 REGISTRY COPYRIGHT 2004 ACS on STN  
RN 202742-30-1 REGISTRY  
CN 1H-Benzimidazole, 5-methoxy-2-[[4-methoxy-3,5-dimethyl-2-  
pyridinyl)methyl]sulfinyl]-, magnesium salt, (R)- (9CI) (CA INDEX NAME)  
FS STEREOSEARCH  
MF C17 H19 N3 O3 S . 1/2 Mg  
SR CA  
LC STN Files: CA, CAPLUS, IMSPATENTS, IMSRESEARCH, USPATFULL  
DT.CA Caplus document type: Patent  
RL.P Roles from patents: BIOL (Biological study); PREP (Preparation); USES  
(Uses)  
CRN (119141-89-8)

Absolute stereochemistry. Rotation (+).

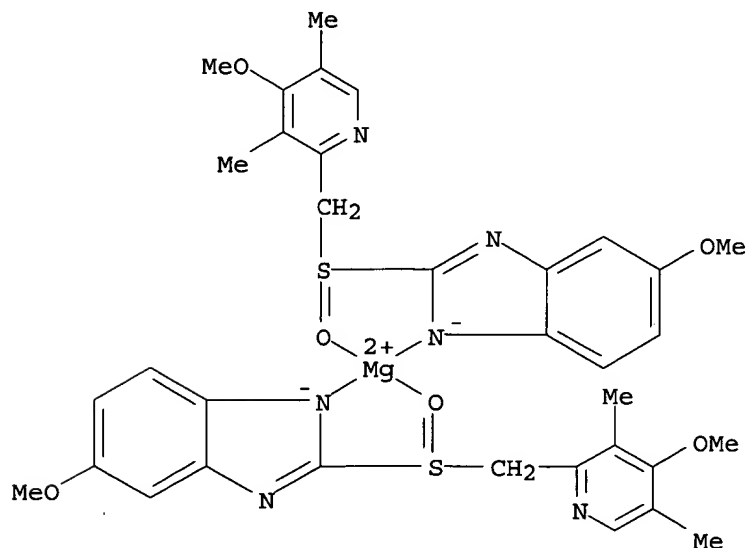


● 1/2 Mg

1 REFERENCES IN FILE CA (1907 TO DATE)  
1 REFERENCES IN FILE CAPLUS (1907 TO DATE)

L9 ANSWER 2 OF 11 REGISTRY COPYRIGHT 2004 ACS on STN  
RN 161973-10-0 REGISTRY  
CN Magnesium, bis[5-methoxy-2-[(S)-[4-methoxy-3,5-dimethyl-2-  
pyridinyl)methyl]sulfinyl-κO]-1H-benzimidazolato-κN1]-, (T-4)-

(9CI) (CA INDEX NAME)  
 OTHER CA INDEX NAMES:  
 CN Magnesium, bis[5-methoxy-2-[[[4-methoxy-3,5-dimethyl-2-pyridinyl)methyl]sulfinyl]-1H-benzimidazolato]-, [T-4-(S),(S)]-  
 OTHER NAMES:  
 CN (-)-Omeprazole magnesium  
 CN (S)-Omeprazole magnesium  
 CN Esomeprazole magnesium  
 CN H 199/18  
 CN Nexium  
 CN Perprazole  
 DR 502497-87-2, 202742-32-3, 302841-07-2, 320416-93-1, 371759-50-1, 372519-57-8, 376628-34-1  
 MF C34 H36 Mg N6 O6 S2  
 CI CCS, COM  
 SR CA  
 LC STN Files: ADISINSIGHT, ADISNEWS, BIOSIS, BIOTECHNO, CA, CAPLUS, CASREACT, CHEMCATS, CIN, DIOGENES, EMBASE, IMSPATENTS, IMSRESEARCH, IPA, MRCK\*, PHAR, PIRA, PROMT, PROUSDDR, PS, SYNTHLINE, TOXCENTER, USPAT2, USPATFULL  
 (\*File contains numerically searchable property data)  
 DT.CA Caplus document type: Journal; Patent  
 RL.P Roles from patents: BIOL (Biological study); PREP (Preparation); PROC (Process); PRP (Properties); RACT (Reactant or reagent); USES (Uses)  
 RL.NP Roles from non-patents: BIOL (Biological study); PREP (Preparation); PROC (Process); PRP (Properties); USES (Uses)

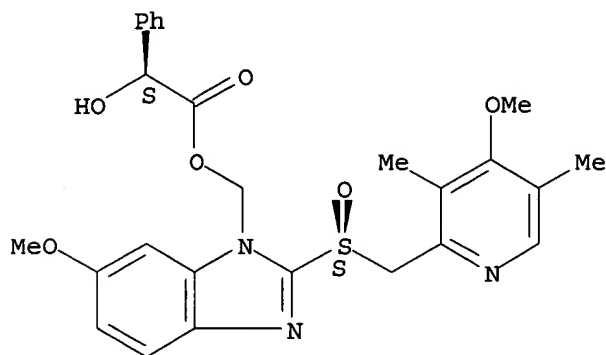


52 REFERENCES IN FILE CA (1907 TO DATE)  
 52 REFERENCES IN FILE CAPLUS (1907 TO DATE)

L9 ANSWER 3 OF 11 REGISTRY COPYRIGHT 2004 ACS on STN  
 RN 161796-89-0 REGISTRY  
 CN Benzeneacetic acid,  $\alpha$ -hydroxy-, [6-methoxy-2-[[[4-methoxy-3,5-dimethyl-2-pyridinyl)methyl]sulfinyl]-1H-benzimidazol-1-yl]methyl ester, [S-(R\*,R\*)]- (9CI) (CA INDEX NAME)  
 FS STEREOSEARCH  
 MF C26 H27 N3 O6 S  
 SR CA  
 LC STN Files: CA, CAPLUS, USPATFULL  
 DT.CA Caplus document type: Patent  
 RL.P Roles from patents: BIOL (Biological study); PREP (Preparation); PRP

(Properties); RACT (Reactant or reagent); USES (Uses)

Absolute stereochemistry.



\*\*PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT\*\*

2 REFERENCES IN FILE CA (1907 TO DATE)

2 REFERENCES IN FILE CAPLUS (1907 TO DATE)

L9 ANSWER 4 OF 11 REGISTRY COPYRIGHT 2004 ACS on STN

RN 161796-88-9 REGISTRY

CN Benzeneacetic acid,  $\alpha$ -hydroxy-, [6-methoxy-2-[[[4-methoxy-3,5-dimethyl-2-pyridinyl)methyl]sulfinyl]-1H-benzimidazol-1-yl]methyl ester, [S-(R\*,S\*)]- (9CI) (CA INDEX NAME)

FS STEREOSEARCH

MF C26 H27 N3 O6 S

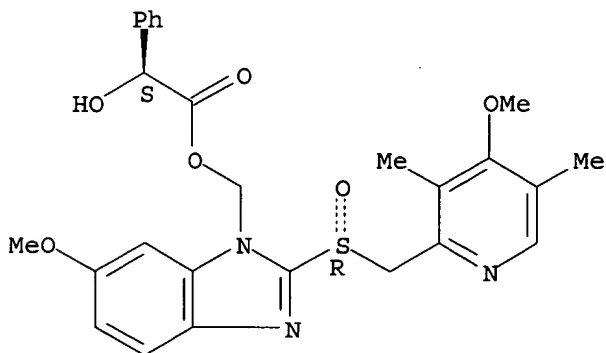
SR CA

LC STN Files: CA, CAPLUS, USPATFULL

DT.CA Caplus document type: Patent

RL.P Roles from patents: BIOL (Biological study); PREP (Preparation); PRP (Properties); RACT (Reactant or reagent); USES (Uses)

Absolute stereochemistry.



\*\*PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT\*\*

2 REFERENCES IN FILE CA (1907 TO DATE)

2 REFERENCES IN FILE CAPLUS (1907 TO DATE)

L9 ANSWER 5 OF 11 REGISTRY COPYRIGHT 2004 ACS on STN

RN 161796-87-8 REGISTRY

CN Benzeneacetic acid,  $\alpha$ -hydroxy-, [6-methoxy-2-[[[4-methoxy-3,5-

dimethyl-2-pyridinyl)methyl]sulfinyl]-1H-benzimidazol-1-yl)methyl ester,  
[R-(R\*,S\*)]- (9CI) (CA INDEX NAME)

FS STEREOSEARCH

MF C26 H27 N3 O6 S

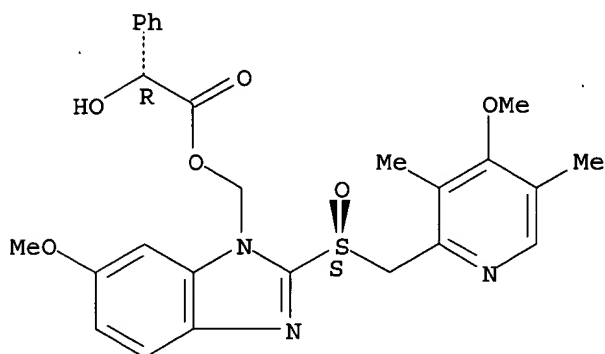
SR CA

LC STN Files: CA, CAPLUS, USPATFULL

DT.CA Caplus document type: Patent

RL.P Roles from patents: BIOL (Biological study); PREP (Preparation); PRP  
(Properties); RACT (Reactant or reagent); USES (Uses)

Absolute stereochemistry.



\*\*PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT\*\*

2 REFERENCES IN FILE CA (1907 TO DATE)

2 REFERENCES IN FILE CAPLUS (1907 TO DATE)

L9 ANSWER 6 OF 11 REGISTRY COPYRIGHT 2004 ACS on STN

RN 161796-86-7 REGISTRY

CN Benzeneacetic acid,  $\alpha$ -hydroxy-, [6-methoxy-2-[(4-methoxy-3,5-dimethyl-2-pyridinyl)methyl]sulfinyl]-1H-benzimidazol-1-yl)methyl ester,  
[R-(R\*,R\*)]- (9CI) (CA INDEX NAME)

FS STEREOSEARCH

MF C26 H27 N3 O6 S

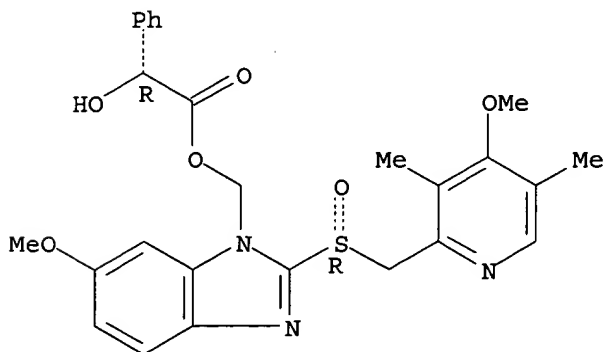
SR CA

LC STN Files: CA, CAPLUS, USPATFULL

DT.CA Caplus document type: Patent

RL.P Roles from patents: BIOL (Biological study); PREP (Preparation); PRP  
(Properties); RACT (Reactant or reagent); USES (Uses)

Absolute stereochemistry.

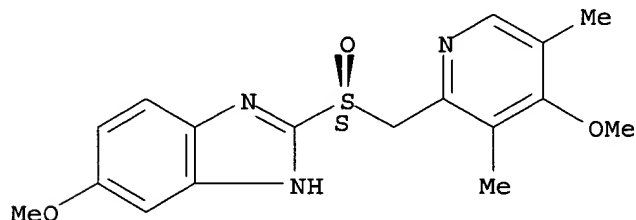


**\*\*PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT\*\***

2 REFERENCES IN FILE CA (1907 TO DATE)  
2 REFERENCES IN FILE CAPLUS (1907 TO DATE)

L9 ANSWER 7 OF 11 REGISTRY COPYRIGHT 2004 ACS on STN  
RN **161796-78-7** REGISTRY  
CN 1H-Benzimidazole, 5-methoxy-2-[(S)-[(4-methoxy-3,5-dimethyl-2-pyridinyl)methyl]sulfinyl]-, sodium salt (9CI) (CA INDEX NAME)  
OTHER CA INDEX NAMES:  
CN 1H-Benzimidazole, 5-methoxy-2-[[[(4-methoxy-3,5-dimethyl-2-pyridinyl)methyl]sulfinyl]-, sodium salt, (S)-  
OTHER NAMES:  
CN Esomeprazole sodium  
CN H 199/18 sodium  
FS STEREOSEARCH  
DR 174610-96-9  
MF C17 H19 N3 O3 S . Na  
SR CA  
LC STN Files: ADISINSIGHT, CA, CAPLUS, CASREACT, IMSPATENTS, IMSRESEARCH, PROUSDDR, SYNTHLINE, TOXCENTER, USPATFULL  
DT.CA Caplus document type: Journal; Patent  
RL.P Roles from patents: BIOL (Biological study); FORM (Formation, nonpreparative); PREP (Preparation); PROC (Process); PRP (Properties); RACT (Reactant or reagent); USES (Uses)  
RL.NP Roles from non-patents: RACT (Reactant or reagent)  
CRN (119141-88-7)

Absolute stereochemistry. Rotation (-).

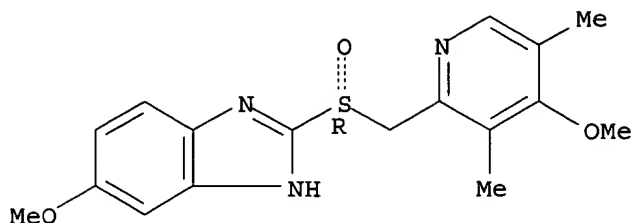


21 REFERENCES IN FILE CA (1907 TO DATE)  
21 REFERENCES IN FILE CAPLUS (1907 TO DATE)

L9 ANSWER 8 OF 11 REGISTRY COPYRIGHT 2004 ACS on STN  
RN **161796-77-6** REGISTRY  
CN 1H-Benzimidazole, 5-methoxy-2-[(R)-[(4-methoxy-3,5-dimethyl-2-pyridinyl)methyl]sulfinyl]-, sodium salt (9CI) (CA INDEX NAME)  
OTHER CA INDEX NAMES:  
CN 1H-Benzimidazole, 5-methoxy-2-[[[(4-methoxy-3,5-dimethyl-2-pyridinyl)methyl]sulfinyl]-, sodium salt, (R)-  
FS STEREOSEARCH  
DR 174610-95-8  
MF C17 H19 N3 O3 S . Na  
SR CA  
LC STN Files: CA, CAPLUS, IMSPATENTS, IMSRESEARCH, TOXCENTER, USPATFULL  
DT.CA Caplus document type: Patent  
RL.P Roles from patents: BIOL (Biological study); FORM (Formation, nonpreparative); PREP (Preparation); PROC (Process); PRP (Properties);

RACT (Reactant or reagent); USES (Uses)  
CRN (119141-89-8)

Absolute stereochemistry. Rotation (+).

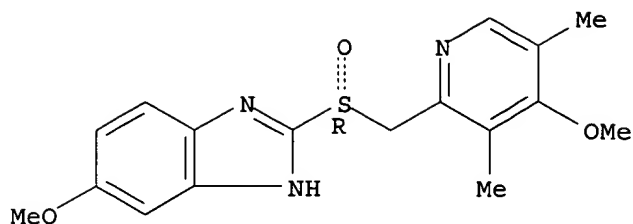


● Na

12 REFERENCES IN FILE CA (1907 TO DATE)  
12 REFERENCES IN FILE CAPLUS (1907 TO DATE)

L9 ANSWER 9 OF 11 REGISTRY COPYRIGHT 2004 ACS on STN  
RN 119141-89-8 REGISTRY  
CN 1H-Benzimidazole, 5-methoxy-2-[(R)-[(4-methoxy-3,5-dimethyl-2-pyridinyl)methyl]sulfinyl]- (9CI) (CA INDEX NAME)  
OTHER CA INDEX NAMES:  
CN 1H-Benzimidazole-1-acetic acid, 5-methoxy-2-[[[(4-methoxy-3,5-dimethyl-2-pyridinyl)methyl]sulfinyl]-, (+)-  
OTHER NAMES:  
CN (+)-Omeprazole  
CN (R)-Omeprazole  
CN 1H-Benzimidazole, 5-methoxy-2-[[[(4-methoxy-3,5-dimethyl-2-pyridinyl)methyl]sulfinyl]-, (R)-  
FS STEREOSEARCH  
MF C17 H19 N3 O3 S  
CI COM  
SR CA  
LC STN Files: ADISNEWS, BEILSTEIN\*, CA, CAPLUS, CASREACT, IMSPATENTS, IMSRESEARCH, PROMT, TOXCENTER, USPATFULL  
(\*File contains numerically searchable property data)  
DT.CA Caplus document type: Journal; Patent  
RL.P Roles from patents: ANST (Analytical study); BIOL (Biological study); FORM (Formation, nonpreparative); PREP (Preparation); PROC (Process); PRP (Properties); RACT (Reactant or reagent); USES (Uses)  
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RL.NP Roles from non-patents: ANST (Analytical study); BIOL (Biological study); OCCU (Occurrence); PREP (Preparation); PROC (Process); PRP (Properties); RACT (Reactant or reagent); USES (Uses)

Absolute stereochemistry. Rotation (+).

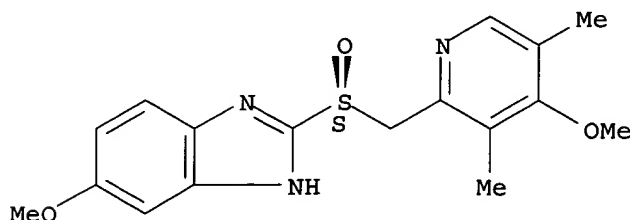


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60 REFERENCES IN FILE CA (1907 TO DATE)  
 2 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA  
 60 REFERENCES IN FILE CAPLUS (1907 TO DATE)

L9 ANSWER 10 OF 11 REGISTRY COPYRIGHT 2004 ACS on STN  
 RN **119141-88-7** REGISTRY  
 CN 1H-Benzimidazole, 5-methoxy-2-[(S)-[(4-methoxy-3,5-dimethyl-2-pyridinyl)methyl]sulfinyl]- (9CI) (CA INDEX NAME)  
 OTHER CA INDEX NAMES:  
 CN 1H-Benzimidazole, 5-methoxy-2-[[ (4-methoxy-3,5-dimethyl-2-pyridinyl)methyl]sulfinyl]-, (S)-  
 OTHER NAMES:  
 CN (-)-Omeprazole  
 CN (S)-5-Methoxy-2-[[ (4-methoxy-3,5-dimethyl-2-pyridyl)methyl]sulfinyl]-1H-benzimidazole  
 CN (S)-Omeprazole  
 CN Esomeprazole  
 CN Nexiam  
 FS STEREOSEARCH  
 DR 193469-77-1, 326602-80-6  
 MF C17 H19 N3 O3 S  
 CI COM  
 SR CA  
 LC STN Files: ADISINSIGHT, ADISNEWS, BEILSTEIN\*, BIOBUSINESS, BIOSIS, BIOTECHNO, CA, CAPLUS, CASREACT, CIN, EMBASE, IMSDRUGNEWS, IMSPATENTS, IMSRESEARCH, IPA, MRCK\*, PROMT, PROUSDDR, PS, SYNTHLINE, TOXCENTER, USPAT2, USPATFULL  
 (\*File contains numerically searchable property data)  
 DT.CA Caplus document type: Journal; Patent  
 RL.P Roles from patents: ANST (Analytical study); BIOL (Biological study); FORM (Formation, nonpreparative); PREP (Preparation); PROC (Process); PRP (Properties); RACT (Reactant or reagent); USES (Uses)  
 RLD.P Roles for non-specific derivatives from patents: BIOL (Biological study); PREP (Preparation); RACT (Reactant or reagent); USES (Uses)  
 RL.NP Roles from non-patents: ANST (Analytical study); BIOL (Biological study); OCCU (Occurrence); PREP (Preparation); PROC (Process); PRP (Properties); RACT (Reactant or reagent); USES (Uses)

Absolute stereochemistry. Rotation (-).





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195 REFERENCES IN FILE CA (1907 TO DATE)  
9 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA  
197 REFERENCES IN FILE CAPLUS (1907 TO DATE)

L9 ANSWER 11 OF 11 REGISTRY COPYRIGHT 2004 ACS on STN

RN 73590-58-6 REGISTRY

CN 1H-Benzimidazole, 5-methoxy-2-[[[4-methoxy-3,5-dimethyl-2-pyridinyl)methyl]sulfinyl]- (9CI) (CA INDEX NAME)

OTHER NAMES:

CN (±)-Omeprazole

CN 2-[[[3,5-Dimethyl-4-methoxy-2-pyridyl)methyl]sulfinyl]-5-methoxy-1H-benzimidazole

CN 5-Methoxy-2-[[[4-methoxy-3,5-dimethyl-2-pyridyl)methyl]sulfinyl]-1H-benzimidazole

CN Acidex

CN Antra

CN Antra MUPS

CN Audazol

CN Aulcer

CN Belmazol

CN Ceprandal

CN Desec

CN Dizprazol

CN Dudencer

CN Elgam

CN Emeproton

CN Epirazole

CN Gastrimut

CN Gastroloc

CN Gastrozole

CN Gibancer

CN H 168/68

CN Indurgan

CN Inhibitron

CN Inhipump

CN Logastric

CN Lomac

CN Losec

CN Mepral

CN Miol

CN Miracid

CN Mopral

CN Ocid

CN Omapren

CN Omebeta 20

CN Omed

CN Omedar

CN OMEP

CN Omepradex

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CN Omepril

CN Omezol

CN Omezzol

CN Omid

CN Omisec

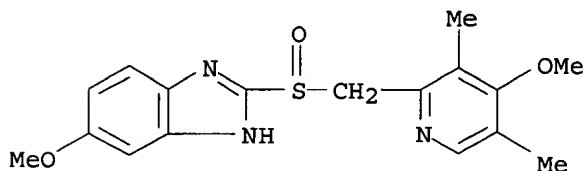
CN Omizac

CN OMP

CN Ompanyt

ADDITIONAL NAMES NOT AVAILABLE IN THIS FORMAT - Use FCN, FIDE, or ALL for

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 DR 172964-80-6, 131959-78-9  
 MF C17 H19 N3 O3 S  
 CI COM  
 LC STN Files: ADISINSIGHT, ADISNEWS, AGRICOLA, ANABSTR, BEILSTEIN\*,  
 BIOBUSINESS, BIOSIS, BIOTECHNO, CA, CANCERLIT, CAPLUS, CASREACT, CBNB,  
 CEN, CHEMCATS, CIN, CSCHM, CSNB, DDFU, DIOGENES, DRUGU, EMBASE, HSDB\*,  
 IMSCOSEARCH, IMSDRUGNEWS, IMSPATENTS, IMSRESEARCH, IPA, MEDLINE, MRCK\*,  
 PHAR, PIRA, PROMT, PROUSDDR, PS, RTECS\*, SYNTHLINE, TOXCENTER, USAN,  
 USPAT2, USPATFULL, VETU  
 (\*File contains numerically searchable property data)  
 Other Sources: WHO  
 DT.CA Caplus document type: Conference; Dissertation; Journal; Patent;  
 Preprint  
 RL.P Roles from patents: ANST (Analytical study); BIOL (Biological study);  
 CMBI (Combinatorial study); FORM (Formation, nonpreparative); PREP  
 (Preparation); PROC (Process); PRP (Properties); RACT (Reactant or  
 reagent); USES (Uses)  
 RLD.P Roles for non-specific derivatives from patents: BIOL (Biological  
 study); PREP (Preparation); PROC (Process); PRP (Properties); USES  
 (Uses)  
 RL.NP Roles from non-patents: ANST (Analytical study); BIOL (Biological  
 study); MSC (Miscellaneous); OCCU (Occurrence); PREP (Preparation); PROC  
 (Process); PRP (Properties); RACT (Reactant or reagent); USES (Uses)  
 RLD.NP Roles for non-specific derivatives from non-patents: ANST (Analytical  
 study); BIOL (Biological study); PREP (Preparation); PROC (Process); PRP  
 (Properties); RACT (Reactant or reagent); USES (Uses)



\*\*PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT\*\*

2648 REFERENCES IN FILE CA (1907 TO DATE)  
 48 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA  
 2654 REFERENCES IN FILE CAPLUS (1907 TO DATE)

AN 1995:438158 CAPLUS  
 DN 122:196964  
 TI Preparation of magnesium omeprazole in a crystalline form  
 IN Kaellstroem, Lars Aake; Nygren, Monica Annelie  
 PA Astra AB, Swed.  
 SO PCT Int. Appl., 15 pp.  
 CODEN: PIXXD2  
 DT Patent  
 LA English  
 FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 9501977	A1	19950119	WO 1994-SE680	19940708
	W: AM, AT, AU, BB, BG, BR, BY, CA, CH, CN, CZ, DE, DK, ES, FI, GB, GE, HU, JP, KE, KG, KP, KR, KZ, LK, LT, LU, LV, MD, MG, MN, MW, NL, NO, NZ, PL, PT, RO, RU, SD, SE, SI, SK, TJ, TT, UA, US, UZ, VN				
	RW: KE, MW, SD, AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG				
	IN 182619	A	19990515	IN 1994-DE782	19940622
	TW 504509	B	20021001	TW 1994-83105710	19940623
	IL 110190	A1	20000726	IL 1994-110190	19940701
	ZA 9404933	A	19950220	ZA 1994-4933	19940707
	EG 21437	A	20011031	EG 1994-407	19940707
	AU 9471981	A1	19950206	AU 1994-71981	19940708
	AU 679766	B2	19970710		
	EP 707580	A1	19960424	EP 1994-921154	19940708
	EP 707580	B1	20020130		
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LI, LU, MC, NL, PT, SE				
	CN 1126993	A	19960717	CN 1994-192733	19940708
	CN 1064680	B	20010418		
	BR 9406940	A	19960910	BR 1994-6940	19940708
	JP 08512315	T2	19961224	JP 1995-504005	19940708
	CA 2166794	C	19970304	CA 1994-2166794	19940708
	HU 75314	A2	19970528	HU 1995-3873	19940708
	PL 175999	B1	19990331	PL 1994-312440	19940708
	RU 2139868	C1	19991020	RU 1996-102079	19940708
	SK 281230	B6	20010118	SK 1996-22	19940708
	CZ 288933	B6	20010912	CZ 1996-69	19940708
	EP 1164132	A2	20011219	EP 2001-117362	19940708
	EP 1164132	A3	20020102		
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT				
	AT 212628	E	20020215	AT 1994-921154	19940708
	JP 2002105072	A2	20020410	JP 2001-293480	19940708
	ES 2100136	T3	20020901	ES 1994-921154	19940708
	US 5900424	A	19990504	US 1994-313342	19940927 <--
	NO 9600068	A	19960105	NO 1996-68	19960105
	FI 9600101	A	19960109	FI 1996-101	19960109
	HK 1008329	A1	20020517	HK 1998-109227	19980717
PRAI	SE 1993-2396	A	19930709		
	EP 1994-921154	A3	19940708		
	JP 1995-504005	A3	19940708		
	WO 1994-SE680	W	19940708		
AB	This invention provides a method for full scale prodn. of Mg omeprazole in a cryst. form with a degree of crystallinity of .gtoreq.70% as detd. by x-ray powder diffraction, to be used in the manuf. of pharmaceutical formulations, such as tablets. Thus, a mixt. contg. MeOH, Mg, and CH2Cl2 was heated and after cooling it to 15.degree., omeprazole was added. The liq. was seeded with Mg omeprazole crystals and the salt was pptd. by addn. of water. After completion of the crystn., the crystals were centrifuged off and washed with a mixt. of MeOH and water. The produced				

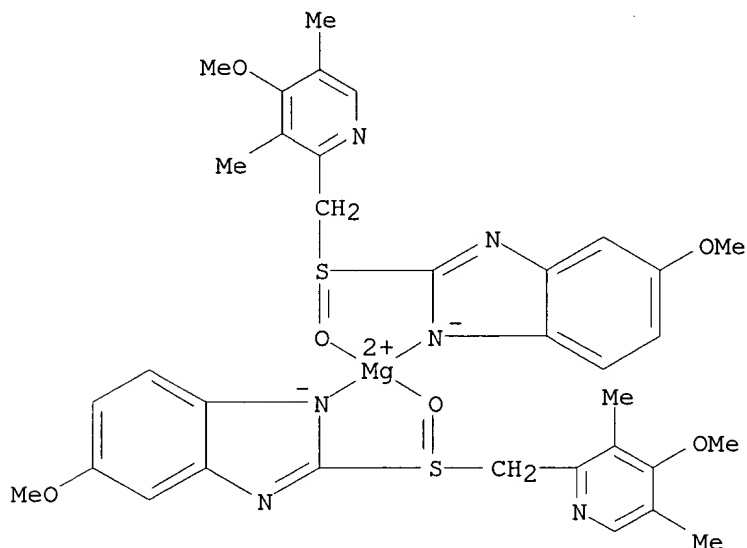
Mg omeprazole had a degree of crystallinity of 76%, a particle size of 19. $\mu$ m, a d. of 1.342g/mL, a hygroscopicity of 1.62% increase upon storage for 1 mo at 94% relative atm. humidity, a moisture content of 7.6%, and a MeOH content of 0.006%.

IT 95382-33-5P, Omeprazole magnesium

RL: PNU (Preparation, unclassified); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)  
(prepn. of magnesium omeprazole in cryst. form)

RN 95382-33-5 CAPLUS

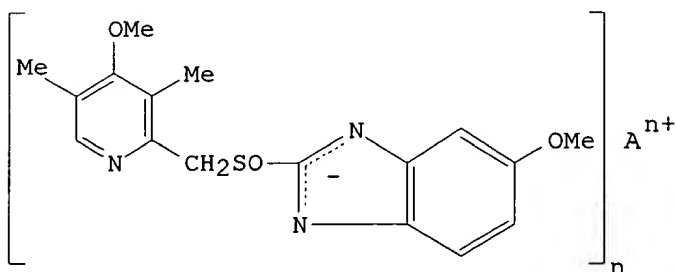
CN Magnesium, bis[5-methoxy-2-[[[4-methoxy-3,5-dimethyl-2-pyridinyl)methyl]sulfinyl-.kappa.O]-1H-benzimidazolato-.kappa.N1]-, (T-4)-(9CI) (CA INDEX NAME)

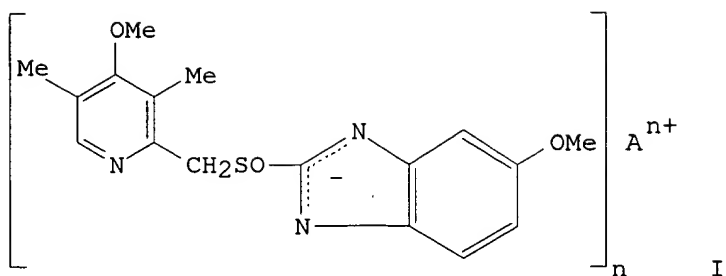


AN 1985:137795 CAPLUS  
 DN 102:137795  
 TI Omeprazole salts  
 IN Brandstrom, Arne Aloff  
 PA Aktiebolag Haessle, Swed.  
 SO Brit. UK Pat. Appl., 6 pp.  
 CODEN: BAXXDU  
 DT Patent  
 LA English  
 FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	GB 2137616	A1	19841010	GB 1984-5511	19840302
	GB 2137616	B2	19861112		
	IL 70985	A1	19871020	IL 1984-70985	19840216
	ZA 8401202	A	19841031	ZA 1984-1202	19840217
	DK 8400995	A	19840905	DK 1984-995	19840224
	DK 160044	B	19910121		
	DK 160044	C	19910610		
	EP 124495	A2	19841107	EP 1984-850066	19840228
	EP 124495	A3	19850515		
	EP 124495	B1	19870114		
	R: AT, BE, CH, DE, FR, GB, IT, LI, LU, NL, SE				
	AT 24907	E	19870115	AT 1984-850066	19840228
	NO 8400772	A	19840905	NO 1984-772	19840229
	NO 160204	B	19881212		
	NO 160204	C	19890322		
	FI 8400851	A	19840905	FI 1984-851	19840302
	FI 83649	B	19910430		
	FI 83649	C	19910812		
	AU 8425257	A1	19840906	AU 1984-25257	19840302
	AU 563842	B2	19870723		
	JP 59167587	A2	19840921	JP 1984-38921	19840302
	JP 03013233	B4	19910222		
	ES 530242	A1	19841101	ES 1984-530242	19840302
	HU 33798	O	19841228	HU 1984-845	19840302
	HU 193557	B	19871028		
	DD 221459	A5	19850424	DD 1984-260523	19840302
	CS 241150	B2	19860313	CS 1984-1515	19840302
	RO 88721	B3	19860430	RO 1984-113806	19840302
	SU 1314953	A3	19870530	SU 1984-3710408	19840302
	PL 142748	B1	19871130	PL 1984-246492	19840302
	CA 1264751	A1	19900123	CA 1984-448761	19840302
	US 4738974	A	19880419	US 1986-854739	19860421 <--
PRAI	SE 1983-1182		19830304		
	EP 1984-850066		19840228		
	US 1984-586107		19840305		
	US 1984-640020		19840810		

GI





AB Omeprazole salts (I,  $A^{n+} = Li^+, Na^+, K^+, Mg^{2+}, Ca^{2+}, Ti^{4+}, N+R_1$  or  $H_2NC+(NH_2)_2$  where  $R_1 = C1-4$  alkyl;  $n = 1, 2$  or  $4$ ) are prepd. for treatment of gastrointestinal disorders when cytoprotective and(or) gastric antisecretory effects are desired. The salts are more storage stable than the neutral form. Omeprazole Na salt [95510-70-6] was prepd. from the omeprazole and NaOH. A syrup was prepd. contg. the Na salt 1.0, powd. sugar 30.0, saccharin 0.6, glycerol 5.0, flavor 0.05, EtOH 5.0, sorbic acid 0.5  $NaH_2PO_4$  9.0 g and distd.  $H_2O$  to 100 mL.

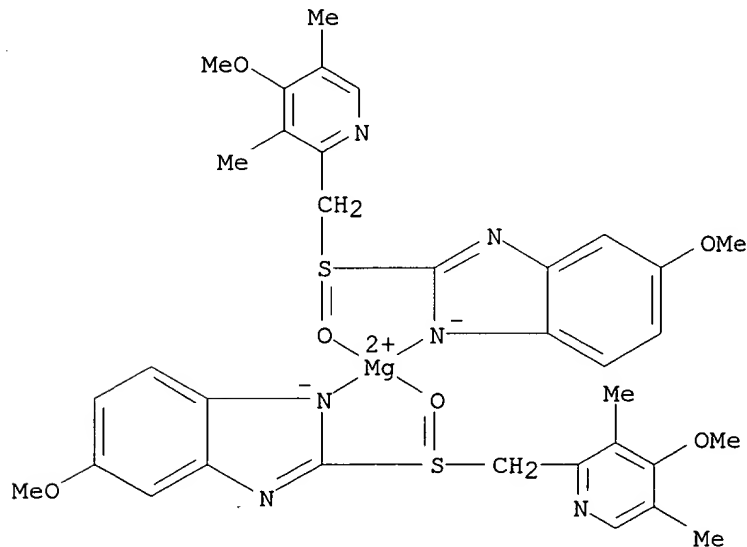
IT **95382-33-5P**

RL: THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)

(prepn. of, for pharmaceuticals)

RN 95382-33-5 CAPLUS

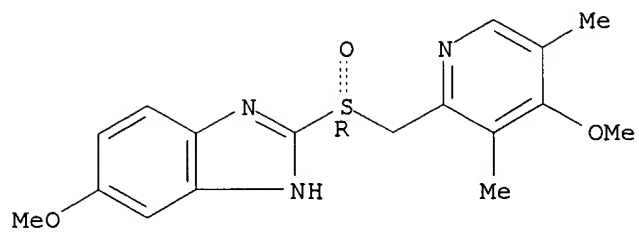
CN Magnesium, bis[5-methoxy-2-[[[4-methoxy-3,5-dimethyl-2-pyridinyl)methyl]sulfinyl]-.kappa.O]-1H-benzimidazolato-.kappa.N1]-, (T-4)-(9CI) (CA INDEX NAME)



AN 1998:98055 CAPLUS  
 DN 128:154082  
 TI Preparation of optically pure omeprazole salts.  
 IN Lindberg, Per Lennart; Von Unge, Sverker  
 PA Astra AB, Swed.  
 SO U.S., 8 pp., Cont.-in-part of U.S. Ser. No. 256,174.  
 CODEN: USXXAM  
 DT Patent  
 LA English  
 FAN.CNT 3

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 5714504	A	19980203	US 1995-376512	19950123
	CA 2337581	AA	19941208	CA 1994-2337581	19940527
	EP 1020460	A2	20000719	EP 2000-108479	19940527
	EP 1020460	A3	20031015		
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI				
	EP 1020461	A2	20000719	EP 2000-108480	19940527
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI				
	US 5693818	A	19971202	US 1994-256174	19940628
	US 5877192	A	19990302	US 1997-833962	19970411
	US 6143771	A	20001107	US 1999-419456	19991015 <--
PRAI	SE 1993-1830	A	19930528		
	US 1994-256174	A2	19940628		
	CA 1994-2139653	A3	19940527		
	EP 1994-917244	A3	19940527		
	WO 1994-SE509	W	19940527		
	US 1995-376512	A2	19950123		
	SE 1996-1383	A	19960411		
	US 1997-899931	B1	19970724		
AB	Optically pure Na <sup>+</sup> , Mg <sup>2+</sup> , Li <sup>+</sup> , K <sup>+</sup> , Ca <sup>2+</sup> and N <sup>+</sup> (R) <sub>4</sub> (R = C1-4 alkyl) salts of (+)-5-methoxy-2-[[ (4-methoxy-3,5-dimethyl-2-pyridinyl)methyl]sulfinyl]-1H-benzimidazole or (-)-5-methoxy-2-[[ (4-methoxy-3,5-dimethyl-2-pyridinyl)methyl]sulfinyl]-1H-benzimidazole, were prepd. Thus, (-)-omeprazole (prepn. given) in 2-butanone was treated with aq. NaOH and PhMe followed by stirring overnight to give 46% (+)-5-methoxy-2-[[ (4-methoxy-3,5-dimethyl-2-pyridinyl)methyl]sulfinyl]-1H-benzimidazole Na salt. A syrup formulation of the latter is given.				
IT	<b>202742-30-1P</b> RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses) (prepn. of omeprazole salts)				
RN	202742-30-1 CAPLUS				
CN	1H-Benzimidazole, 5-methoxy-2-[[ (4-methoxy-3,5-dimethyl-2-pyridinyl)methyl]sulfinyl]-, magnesium salt, (R)- (9CI) (CA INDEX NAME)				

Absolute stereochemistry. Rotation (+).



● 1/2 Mg

RE.CNT 15      THERE ARE 15 CITED REFERENCES AVAILABLE FOR THIS RECORD  
ALL CITATIONS AVAILABLE IN THE RE FORMAT